Impact of Social Presence on Focus Group Success

Murrey Olmsted • Christina Underhill

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Impact of Social Presence on Focus Group Success

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14. ABSTRACT
As computers and alternatives of communication become more widespread, researchers are beginning to turn to new approaches to conduct data collection. A frequently used technique for collecting preliminary data or follow-up research is focus groups. The present study compared two types of computer-based focus groups with traditional face-to-face focus groups. The two type of computer-based focus groups utilized a chat room environment and laptop computers to facilitate the discussions. The two computer conditions included one in which participants could see and hear each other (computer-mediated) and another in which barriers and noise-cancelling headphones blocked such access to social cues (Internet-simulated). The conditions were designed such that the face-to-face condition would have the highest social presence, the computer-mediated would have a moderate level of social presence, and the Internet-simulated would have the lowest social presence. It was believed that the level of social presence would have a significant impact on the level of participation, participant satisfaction, as well as the quantity and quality of the data. A total of 27 focus groups were conducted over two weeks during the spring of 2002 at the Combat Systems and Engineering "A" Schools of the Naval Training Center Great Lakes. Results indicted that differences were found in the number of words used to communicate in the three conditions; however, similar levels of participation, satisfaction, quantity, and quality of participation were obtained for each condition. In contrast to what was expected, social presence did not distinguish between the different conditions. Overall, the results indicted that conducting computer-based focus groups can be done in a successful manner and can achieve similar results to that typically found in traditional face-to-face methods.

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Focus group, survey, Internet, computer-mediated, computer-based, qualitative research, social presence, recreational activities

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Foreword

This project was sponsored by the Office of Naval Research through the Independent Laboratory Independent Research (ILIR) program. The ILIR program makes grants to Navy research laboratories to allow researchers to pursue interesting theoretical research on topics that they might not otherwise receive funding for. The present study was conducted between October 2001 and September 2002; the study sought to compare traditional face-to-face with two computer-based focus group methods to evaluate the differing levels of social presence and the overall success of the approach. The primary reasons for this study were two-fold, to test for differences between the quantity and quality of focus group responses in both face-to-face (FTF) and computer-mediated (CM) conditions, and to evaluate the impact of social presence on the focus group process and outcomes. The study successfully completed 27 focus groups, using a sample of 156 junior enlisted and petty officers currently in training at the NTC Great Lakes, to evaluate differences in the success of FTF and CM focus groups. Participants in randomly assigned groups of 5−6 participated in one of the three following conditions: traditional face-to-face (standard focus group utilizing verbal and non-verbal communication); computer-mediated (group members in same location but all communication via computer); and Internet-simulated (group members in same location but separated by barriers and noise canceling headphones, with all communication via computer).

While differences were found in the number of words used to communicate, the three conditions appeared to achieve similar results in level of participation, participant satisfaction, and quantity/quality of information obtained. In contrast to what was expected, social presence did not appear to clearly distinguish between each of the different modes of participation.   Overall the results indicate that conducting on-line focus groups can be done in a successful manner and achieve similar results as typically found in traditional face-to-face methods. While there are some differences in the amount of conflict and words used to communicate, similar amounts of unique information are obtained for both FTF and CM focus groups.

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This project was sponsored by the Office of Naval Research through the Independent Laboratory Independent Research (ILIR) program. The ILIR program makes grants to Navy research laboratories to allow researchers to pursue interesting theoretical research on topics for which they might not otherwise receive funding. The grants are locally administered by a project officer who reviews and approves a number of grants each year to researchers within the lab. To be considered for the grant, the study must focus on evaluation of a theoretical issue that has some potential practical implications. At the conclusion of ILIR studies, the researcher is required to submit at minimum a brief description of the results of the study. This Annotated Briefing provides details on the background, results, and implications of the present study as required by the program.

The present study was conducted between October 2001 and September 2002. The grant was managed in-house by Murrey Olmsted, while the research was conducted by both Murrey Olmsted and Christina Underhill. This project served a dual purpose, in that it provided valuable research on the process of conducting focus groups on-line and also served as a data collection vehicle for a Master's thesis for Christina Underhill. Ms. Underhill successfully defended her Master's thesis in psychology at the University of Memphis in December of 2002.

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Background

Navy Interest in the Internet

- Navy Marine Corp Intranet (NMCI) and IT-21 promise new and widely available Internet access
  - Improvements in networks and computer equipment will allow for near universal Internet coverage
  - Increased bandwidth of Internet communications promises to deliver real-time text, sound, and video between parties on NMCI
- NPRDC/NPRST research roadmap called Sailor 21 (http://www.NPRST.navy.mil/Sailor.htm) envisioned the Internet as an important new medium for collecting research data
  - Sailor 21 recommends a major shift in focus in research methods to exploit new technologies such as the Internet, wireless communication, and others which may provide new approaches to collecting valid and reliable data from Sailors
  - New media would not only be used to collect data, but may also provide a platform for publishing the results of these studies
  - Both in data collection and dissemination, a great deal of research needs to be done on the feasibility, validity and reliability of these methods to ensure that they are viable in the Navy

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Navy IT Initiatives. During the mid-1990s, the Navy began exploring the need to develop a comprehensive and integrated network infrastructure that offered universal connectivity and standard operations for all active duty and civilian personnel working for the Department of Navy. The results of this work were two independent but complimentary visions for building a communications infrastructure for the Navy. The first of these plans resulted in the development, and now partial implementation, of the Navy/Marine Corps Intranet (NMCI). NMCI is designed to provide consistent and universal Internet and Intranet access to all personnel at shore-based facilities. The access provided by the network is designed to provide a consistent "look and feel" for users as well as a suite of applications and services necessary to facilitate normal operations.

The other network initiative, the Information Technology for the 21st Century (IT-21), is a program to upgrade the communications and information technology of deployable or sea-going units. The focus of this initiative is to upgrade ship-based computer and communications networks to the latest industry standards aboard ships and other deployable military platforms. IT-21 was originally a voluntary initiative to encourage commands to upgrade equipment to the latest industry standards and to coordinate this upgrade in technology across the Navy. The initiative is now considered by some to be the equivalent of the NMCI program; however, the focus is on deployable units vs. shore-based units.

Sailor 21. In December 1998, the Navy Personnel Research and Development Center (NPRDC) published a visionary road map of how the Navy could work to achieve its manpower and personnel research, staffing, and management needs through research and development (NPRDC, 1998). The document, titled *Sailor 21*, cast a vision for the

future of manpower and personnel research in the Navy. One of the fundamental changes to research introduced by *Sailor 21* was a focus on using technology—specifically the Internet—as a tool for data collection, reporting results, and conducting follow-up research. Since its introduction, *Sailor 21* has been widely briefed to senior leadership throughout the Navy. This has resulted in fairly wide adoption of the ideas expressed in the research roadmap by senior leadership as being the vision for research and development in areas related to Navy manpower and personnel.

Integration of IT Initiatives and Sailor 21. Together, the current Navy IT initiatives (NMCI and IT-21) and *Sailor 21* point toward doing more research on and through the Internet. They laid the groundwork for a major revolution in how research is conducted for the Navy. In the realm of social and public opinion research, the Internet offers a new mode of collecting data from web-based surveys, opinion polls, focus groups, and other methods of research. They also point to the aggressive adoption of technology-based research methods as a means to improve the access, speed, and accuracy of research.

Computer-mediated vs. Face-to-face Communication

- **Equality of Participation**
  - Reviews by McLeod (1992) and Bordia (1997) indicate that there is generally greater equality in the amount of participation when conducting computer-mediated forms of communication
- **Quantity of Information**
  - Studies by Parent et al. (2000), Olaniran (1994), and Bordia (1997) suggest that computer-mediated communication typically generates a greater quantity of information (i.e., unique comments)
- **Quality of Information**
  - Weisband et al. (1995) and Bordia (1997) found that the quality of information obtained in computer-mediated communication tends to be mixed
- **Participant Satisfaction**
  - According to Parent et al. (2000) and Olaniran (1996), participant satisfaction was greater with face-to-face rather than computer-mediated communication

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As computers and other new communication technologies have become a ubiquitous part of modern life, the question of their equivalence in producing usable research data has come to the forefront. A number of studies have been published comparing computer-mediated (CM) and face-to-face (FTF) communication. The major areas these studies have focused on have been equality of participation, quantity and quality of information, and participant satisfaction.

Equality of Participation. When in a computer-mediated communication environment, status differences are difficult to determine (Weisband, Schneider, & Connolly, 1995). Unlike FTF communication, where social cues are often a major part of the communication taking place, in CM less attention is given to social factors and more attention paid to the actual ideas being communicated. According to reviews of the literature by McLeod (1992) and Bordia (1997) participants are less likely to dominate the group discussion in CM communication resulting in greater equality of participation across groups. Straus (1997) found a greater equality of participation in CM communication, but this equality did not have an impact on productivity (quantity or quality of ideas generated) or satisfaction with the discussion process.

Quantity of Information. A number of studies indicate that CM communication typically generates a greater quantity of information (e.g., unique comments) than traditional face-to-face methods. A study by Parent, Gallupe, Salisbury, and Handelman (2000) found that participants using electronic group support systems (a type of computer-mediated communication) produced 55 percent more unique ideas than those using more traditional methods of communication (face-to-face, telephone support, etc.). CM methods of communication allow for individuals to simultaneously participate by interjecting their comments at any time in the discussion without waiting for others

to finish. Other studies involving idea generation tasks (e.g., brainstorming) found that CM produced more unique ideas than face-to-face discussion (Bordia, 1997; Olaniran, 1994). In addition, literature reviews by Bordia (1997) and McLeod (1992) found that there is typically less conformity in CM, allowing more individual contributions and a greater quantity of unique comments to be generated.

Quality of Information. Published reviews of the research literature indicate that the quality of information (e.g., ratio of on-topic to off-topic comments) obtained in computer-mediated communication tends to be mixed (Bordia, 1997; Weisband et al., 1995). In some cases, such as McLeod (1992), research has found that the quality of information has been higher for CM than FTF communication. Other authors, such as Bordia (1997), have concluded that the results of these studies are still rather mixed in terms of CM and FTF equality when it comes to information quality. A few more recent studies of CM used in the process of brainstorming were unable to distinguish between the quality of information found in CM and FTF methods of data collection (Barki & Pinsonneault, 2001; Ziegler, Diehl, & Zijlstra, 2000).

Participant Satisfaction. Participation in CM communication requires significantly greater complexity than FTF communication (Olaniran, 1996). Participants must use things such as a keyboard and mouse, read the computer screen, type a response, or engage in other activities rather than simply listening and talking with others. Consistent with what might be expected with the increased workload of responding in CM communication, published studies indicate that participant satisfaction tends to be greater with FTF rather than CM communication (Gunawardena & Zittle, 1997; Parent et al., 2000; Tu, 2002; 2000).

Social Presence

- Definition
  - The degree to which a particular communication medium is successful in transmitting both content information and social cues that typically occur in face-to-face communication (Short et al., 1976)
- Lack of On-line Research
  - Majority of past social presence research has focused on face-to-face, telephone, video, or written communication—almost nothing has been done with on-line communication
- Participant Satisfaction
  - Gunawardena and Zittle (1997), and Tu (2002; & 2000) found that social presence was a strong predictor of participant satisfaction with computer-mediated communication

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One of the theories that may be helpful in understanding differences between CM and FTF communication is social presence. Developed in the mid-1970s by Short, Williams, and Christie (1976), the theory of social presence is a framework to describe changes in the perception of social factors with new types of technology-based communication. Social presence is defined as the degree to which a particular communication medium is successful in transmitting both content information and social cues that typically occur in face-to-face communication (Short et al., 1976). Social presence can be conveyed through written and verbal conversations as well as nonverbal social and symbolic cues. Each different type of media such as telephone, e-mail, videoconference, and personal contact differ somewhat in their ability to transmit these cues in the process of communication. A principle underlying social presence theory is that a good match between the communication behaviors/activities of a particular type of media and its ability to convey the presence of other participants will produce a more effective and satisfying experience. For example, a match between a medium that has a relatively high degree of social presence (e.g., using the telephone) and the activity of getting to know someone will produce more satisfied participants (Rice, 1993).

Social presence theory offers a useful perspective and basis on which to judge new media (e.g., types of technology-based communication); however, very little research has been done to advance theoretical work in this area over the past decade. While some early research considered the impact of social presence on telephone and video communication (Rice, 1993; Short et al., 1976) very little has been done regarding its impact on computer-based or on-line communication. In the few studies that have been conducted, most have found that social presence was a strong predictor of satisfaction with communication in a CM environment (Gunawardena & Zittle, 1997; Tu, 2002; 2000). The higher degree of social presence felt by the participants, the greater their satisfaction with CM communication.

Focus groups are planned, directed discussions involving a small number of people that concentrate on the feelings, beliefs, and perceptions of the participants on a pre-specified topic of discussion (Edmunds, 1999). The purpose of focus groups is to gather qualitative information. The method is especially helpful in providing insight into how people feel or think about an issue, product, or service. A focus group relies on both the interactive social context of the discussion and the individual histories of each of the group members to produce a rich and interesting discussion on a particular topic. Group members are encouraged to talk to each other, react to the comments of others, and talk about their past experiences that have a bearing on the discussion, and participate by providing other comments or feedback to the discussion. Focus groups are led by a moderator, whose job it is to maintain the focus of the group, ask the main questions, follow up on responses, keep notes, and maintain a time schedule. The moderator often records group discussions so that they can be transcribed at a later date. An effectively run focus group can provide a rich source of data on a specific topic. While qualitative data collected in focus groups may not be generalized to larger populations, they can still shed light on the topic of focus and help researchers narrow their search for answers to problems (Edmunds, 1999; Merton, Fiske & Kendall, 1990; Morgan & Krueger, 1998).

Over the past 20 years, focus groups have become a popular means of collecting qualitative data in the Navy. They are currently used to generate data on a wide variety of subjects to inform decision-makers, researchers and oversight functions (e.g., Navy Inspector General) in the Navy.

Benefits of On-line Focus Groups

- Lower overall cost
  - No travel, lodging, or other labor costs associated with on-site focus groups
- Reduced time involvement
  - Reduces the overall amount of time necessary to set up and conduct a focus group
- Increased accessibility
  - Provides high accessibility to Sailors in remote locations who may be difficult to reach using on-site data collection
- Anonymity of participants
  - Participant identities can be withheld or presented in a manner that protects their privacy
- Automatic data capture
  - Software enables capture of all discussion content, making transcription of the results unnecessary
  - Enables the capture of information on the response patterns of focus group participants (i.e., key strokes, use of the delete key, response latency, etc.)

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In today's work world, use of computers for both work and communication is widespread. The reality of frequent computer-based communication is true for both the business world and today's military. In the Navy, with the recent push to move more and more research resources to the Internet, the use of on-line or computer-based focus groups seems to be a logical extension of both the research methodology and the popularity of focus groups. Computer-based focus groups are now also feasible for the first time as the Sailor population has increased access to the Internet and is generally well trained in the use of computers for communication and other business functions. This new mode of research offers a number of advantages over the traditional approach to conducting focus groups that often involved extensive travel, time, cost, and set-up for each location (Edmunds, 1999; Merton, Fiske & Kendall, 1990).

The use of on-line focus groups offers a number of significant advantages for Navy researchers. First, the overall costs associated with conducting focus groups should be much less. The primary reason for this is that researchers do not have to incur the costs of travel, lodging, or other labor associated with conducting data collection on-site. Second, on-line focus groups require less time to conduct. Moderators do not have to worry about scheduling or setting up a room or travel, and may use the same protocol numerous times without having to modify it for different settings. Third, on-line focus groups can increase the accessibility of researchers trying to get to study participants. As the number of Sailors with access to the Internet increases, a wider variety of Sailors from around the Navy can participate in focus groups, surveys, or other research by simply connecting remotely to research websites. Fourth, on-line focus groups can offer better privacy protections than would be typically afforded by traditional face-to-face focus groups. This is a significant advantage in that study participants could be assured

that there would not be any negative consequences from their participation in the group discussion. Since only the moderator of the group would know the identity of the respondent, he/she would be free to express their opinions and/or dissent without fear of reprisal. Fifth, on-line focus groups offer a significant advantage to researchers by enabling automatic data capture of the group discussion. This alone makes an on-line focus group attractive to researchers because it reduces the cost and time to conduct research while increasing the accuracy of data collection. Since the researcher does not need to transcribe the data, he can immediately move into the analysis phase of the study and start to evaluate the data for common themes. In addition, automatic data capture may allow researchers to conduct research on the response patterns of participants using measures of their interaction with the computer during the communication process (e.g., number of key strokes, use of the delete key, response latency, typing speed, etc.).

While on-line focus groups offer a number of advantages over traditional face-to-face (FTF) focus groups, they also present a number of disadvantages (Edmunds, 1999). The majority of these disadvantages are due to differences or limitations introduced by the use of computers into the communication process in on-line focus groups. First, because on-line focus groups do not occur in the same location and typically use text-based communication, participants lose out on all of the visual and social cues that are present in FTF communication to convey emphasis, irony, or other subtleties. Instead, participants must rely on what social information they can glean from the words being used in communication. Second, as a result of the lack of visual or social cues being present in on-line focus groups they may be less likely to produce the dynamic discussions that are typical of FTF focus groups. Third, on-line focus groups require participants to read and type in order to take part in the group discussion. This adds an additional burden to the respondent to both read the computer screen quickly and then manually type the response using a keyboard. For most people, this is significantly more work than simply responding verbally and as a result most tend to produce shorter more succinct responses to questions (Edmunds, 1999). Fourth, on-line focus groups are by definition limited to those who have access to the Internet or some other computer-based communication network. This situation presents a paradox where on-line focus groups can both improve access to remotely located study participants, but only be restricted to those with Internet access. The main concern with this situation is that there may be systematic differences between those who have access to the Internet and those who do not. With unequal access, the probability of selection for inclusion in focus groups and possible differences in attitudes may result in bias that would potentially change the outcome of research. Fifth, as a result of the limitations imposed by using text-based communication in on-line focus groups, the topics of discussion may be

limited. For instance, discussions of highly technical topics or reactions to products/ services may simply not work in the on-line environment due to the lack of visual, social and other communication cues or aides.

- High interest in on-line focus groups
  - There are currently over 50 commercial-off-the-shelf software titles available that offer some form of on-line group discussion capability (e.g., chat-rooms, instant messaging, etc.)
  - There are a number of companies, such as www.EFocusGroups.com and www.VRRoom.com, that currently offer an on-line focus group service
- Lack of quality published research
  - Majority of publications focus on brainstorming tasks or asynchronous discussions (i.e., bulletin boards), and not real interactive focus groups
  - Sample sizes have been very low, typically 2-4 groups, leading to very low statistical power (Cohen, 1992)
  - Current studies talk about findings, but do not offer any supporting statistical evidence for their conclusions

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At the present, there is a high degree of interest in conducting on-line or computer-mediated (CM) focus group research. This appears to be due in part to the advantages that these groups offer over traditional face-to-face (FTF) discussions. As a result, there are a large number of software titles that offer some form of on-line group discussion capability such as chat rooms, instant messenger, shared virtual workspace, and other means of communicating. A recent search of software listing services such as www.versiontracker.com and www.download.com revealed that there are currently over 50 software titles offering some form of on-line group discussion capability. This indicates that there is a great deal of interest in the technique and a potential for wide applicability of the CM focus groups.

To date, most studies comparing CM and FTF focus group performance have centered only on brainstorming activities or asynchronous discussions (e.g., bulletin boards) rather than the typical dynamic group discussions associated with true focus groups. Morgan and Krueger (1998) identify the fundamental aspects of a focus group as being research-based, focused on a topic of interest, and involving dynamic group discussion. The majority of published studies comparing CM and FTF discussions have either not been true focus groups (e.g., Barki & Pinsonneault, 2001; Olaniran, 1994; Parent, Gallupe, Salisbury, & Handelman, 2000; Sweeney, Soutar, Hausknecht, Dallin, & Johnson, 1997) or have not directly compared CM with FTF group discussions (e.g., Ahern, 1993; Valacich, Dennis, & Nunamaker, 1992). A small number of published studies were found that presented information about actual CM focus group discussions (e.g., Schneider, Kerwin, Frechtling, & Vivari, 2002; Tse, 1999; Walston & Lissitz, 2000). Although these studies reported results of true CM focus groups, only Schneider et al. (2002) have actually compared the results of FTF and CM groups.

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Methods

A primary question of researchers who utilize computer-based focus groups is whether the quantity or quality of information from participants is similar to traditional face-to-face (FTF) focus groups. Although Internet-based focus groups may present a number of advantages, they are yet to be proven as being successful in capturing the same amount or quality of information typically obtained by traditional FTF methods. A secondary question is whether or not differences in quantity or quality result from differences in perception or access to social cues. The communication skills necessary to participate in CM and FTF groups are fundamentally different. In FTF communication, people rely on visual, auditory, and verbal skills to interact. In a CM environment, participants interact solely with a computer screen relying on their ability to read, comprehend, and physically respond to text conversations (e.g., use a mouse and keyboard). In a CM environment there is less information obtained by the participants, such as social status and body language. This reduction in face-to-face interaction introduced by CM focus groups, whether in the same location or a separate location (e.g., Internet-based), may present a potential threat to the usefulness and productivity of the method. On the other hand, they may allow participants to express themselves more freely.

Since on-line or CM focus groups remain relatively untested, this study sought to experimentally test one methodological approach to conducting these focus groups. To meet this goal, the study laid out a number of objectives. First, the study sought to test a "synchronous" method of conducting focus groups utilizing a new chat room format. Second, in testing the new method the study sought to evaluate the equivalence of on-line or CM focus groups vs. traditional FTF group discussions. Third, in an effort to understand how differences in the mode of participation might impact the content of the information collected, the study sought to assess the perceptions of social presence by

study participants. Fourth, the study sought to collect content data for the Service School Command at Naval Training Center (NTC) Great Lakes, on the off-duty activities of their junior enlisted student populations. Specifically, the Service School Command was interested in the most common off-duty activities including attendance at raves (all night "underground" parties that are often held in abandoned warehouses involving dancing, drugs, and alcohol), alcohol/drug use, types of transportation being used, and use of on-base recreational activities.

Sampling Procedure

- Contacted the commanding officer of NTC Great Lakes to secure permission to conduct the study
  - Requested that participants be recruited from the Engineering and Combat Systems "A" School programs at NTC Great Lakes
- Provided instructions on how to recruit a volunteer sample of participants
  - To ensure adequate numbers of participants, instructions on recruitment procedures, an explanation of the study, and sign-up sheets for participants were provided to the point of contact (see Appendix A)
    - » Encouraged those recruiting participants to ensure that participants were not forced but were actually volunteers for the current study
    - » Requested that NTC Great Lakes recruit a total of 189 volunteers (162 for actual participation in the study, as well as 27 alternates)
      - Recruitment of participants was completed 14 days before the arrival of the research team on-site

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The research team partnered with the Service School Command at NTC Great Lakes to collect both experimental data for the project and content data to answer research needs at the command. Permission was granted by NTC Great Lakes to the research team to recruit and conduct the study at the Engineering and Combat Systems "A" Schools located at the command. To ensure that recruitment was conducted appropriately, the research team provided the command with the following information: instructions on how to recruit participants, an explanation of the nature/purpose of the study, and sign-up sheets for the students. These documents contained detailed instructions on how to conduct recruitment to ensure both voluntary recruitment and adequate numbers of participants for the study. The command was instructed to recruit a total of 189 volunteers for the study: 162 Sailors for participation in the focus groups and 27 alternates.

All procedures appeared to be followed as directed. Recruitment of study participants was completed by the command 14 days before the research team arrived on-site to conduct the study.
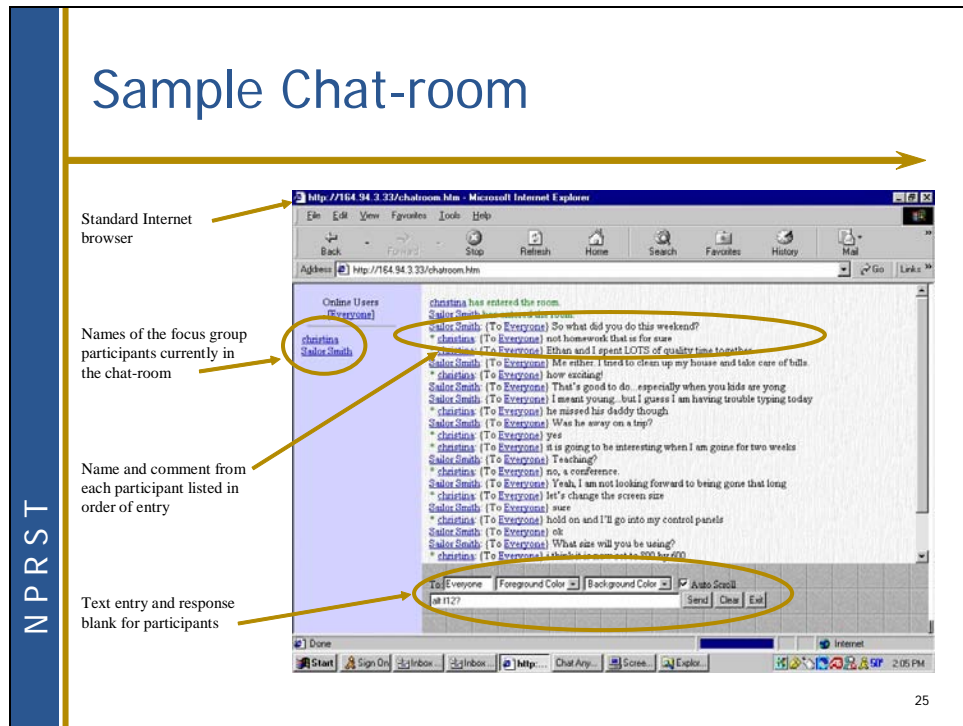
Administration

- Conducted focus groups
    - Each focus group was composed of 5-6 members and a moderator
    - Participant groups were randomly assigned to one of three different focus groups conditions (a total of 9 focus groups were conducted in each mode)
    - Utilized identical discussion protocols (see Appendix B) for each group that focused on the off-duty recreational activities of participants (e.g., sports, parties, raves, travel, transportation, drug/alcohol use, etc.)
- On-line conditions used synchronous chat-room software
    - On-line focus groups were hosted on a secure Intranet local area network using standard Internet browser software
    - Contributions from each participant were displayed in near real-time
    - Each comment submitted was clearly marked to indicate which participant made the contribution
- Administered participant questionnaire at the conclusion of the study
    - Questionnaire (see Appendix C) contained questions about participant demographics, experience with computers/Internet, perceptions of social presence, introversion, and satisfaction with the focus group experience

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Focus groups were conducted during the last week of April and first week of May 2002 at NTC Great Lakes. All of the focus groups were conducted in two instructional classrooms at the command. A complete description of each of the conditions can be found in the next section; however, each of the focus groups had the following in common: At the start of every group, participants as a group were introduced to the moderators and given an explanation of the purpose of the study. To ensure that participation was voluntary, participants were asked to complete a short Informed Consent form prior to beginning the study. After all introductions, completion of consent forms, and answering of questions, participants were directed to take a seat either at a computer workstation for computer-based groups or in one of the chairs set up in a circle for face-to-face group discussions. At this point, the moderator began by introducing the members of the group and starting the question protocol. Each focus group discussion was limited to one hour.

Participants, in groups of 5–6 were randomly assigned to one of three conditions representing different modes of communication with varying levels of social interaction. The study included traditional face-to-face and two computer-based conditions (i.e., computer-mediated and Internet-simulated) in which participants communicated via the use of laptop computers and a private Intranet chat room. A total of 9 groups were conducted in each of the 3 conditions, resulting in a total of 27 focus groups. Focus group conditions were balanced for time of day and day of week to reduce the potential bias of time in the response of participant to either the focus group discussion or other measures.

Two experienced moderators led all focus groups, with moderators leading four or five focus groups in each condition. Following the focus group discussion, participants were asked to complete a short questionnaire that asked about their satisfaction with the focus group experience, their use and comfort level with computers for communication, their perceptions of social presence conveyed during the discussion, and a few demographic questions.

Sample Chat-room

Standard Internet browser

Names of the focus group participants currently in the chat-room

Name and comment from each participant listed in order of entry

Text entry and response blank for participants

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ChatAnywhere© 2.0 software (LionMax Software, 2002) was used in both computer-mediated and Internet-simulated conditions. The software creates a chat room using any standard Internet browser that is connected to an Intranet or the public Internet. Comments were posted in the chat room after a participant pressed the "Enter" key. All computers used in the study were set to refresh (e.g., update) the main screen once every second so that participants could be assured of having the most up-to-date data. Participants were able to read all comments in the order they were posted. The moderator's comments were always highlighted in yellow to help call attention to their questions and directions. Participants were instructed not to change their font or background colors from black text on a white background.

As seen above, to access the chat room participants used a standard Internet browser that connected to the chat room server at a particular Internet Protocol (IP) address. The names of all participants are listed in the left-hand column under the title "on-line users." Participants in the focus groups entered their responses in the entry blank at the bottom of the screen and either pressed the "Enter" key on their keyboard or pressed the "Send" button on the screen. The actual text or response entered for each participant was displayed above the text entry blank in order of response submissions. For each response, the name of the participant was listed to the left (including whom the message was addressed to) and the response was displayed to the right. All computers were set to 800 x 600 screen resolution to ensure that text size was adequately large for quick reading and response by the focus group participants.

Modes of Focus Groups

Face-to-face

Characteristics:
- Same location
- Can see and hear other participants directly
- Interaction is direct via face-to-face communication
- Facilitator present in the same location

Level of Social Presence: HIGH

Computer Mediated

Characteristics:
- Same location
- Can see and hear other participants indirectly (the focus is on computer screen)
- Interaction indirect via the use of computer keyboard
- Facilitator present in the same location

Level of Social Presence: MEDIUM

Internet-simulated

Characteristics:
- Same location
- Separated by barriers and headphones—blocking visual and auditory cues
- Interaction indirect via the use of computer keyboard
- Facilitator present but obscured by barriers

Level of Social Presence: LOW

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The three focus group conditions used in the study were each designed to provide a different mode of communication and level of social interaction. The first condition, the traditional face-to-face (FTF) focus group, represented the most natural type of group discussion. In this condition, participants engaged in normal face-to-face communication, utilizing the full spectrum of available verbal and non-verbal information on the attitudes, opinions, and feelings of others in the group. This condition represented the highest level of social presence due to the interactive nature of the communication and the access to the rich verbal and non-verbal communication from all other participants. The content of the discussion in the FTF focus groups was audiotaped and later transcribed.

In contrast to the traditional FTF condition, the two computer-based conditions consisted of a fundamentally different form of communication. Participants in these focus groups were asked to use a networked laptop computer to read and respond to the comments of other participants in the discussion. Participants in both of these conditions were told to focus on what they saw on the computer screen in front of them, and were discouraged from using verbal (e.g., talking, laughing, sighs, etc.) or non-verbal communication techniques (e.g., gesturing, facial expressions, etc.) to communicate. ChatAnywhere© 2.0 (LionMax Software, 2002) was used as the software platform to facilitate the focus group chat rooms. The software displayed the comments of all participants on the computer screen and posted new comments in near real-time (1-second latency) after a participant pressed the "Enter" key on his or her computer. Participants were able to read all comments in the order they were posted and respond at any time. The typed discussion from the computer-mediated and Internet-based focus groups were saved and later printed.

Of the two computer-based focus groups, the computer-mediated condition represented an intermediate condition between the high social presence setting of a traditional FTF focus group and the isolation that participants would experience if the focus group were taking place over the Internet. In this condition, participants were located in the same room, but were instructed to communicate with each other only by typing messages in the chat room using their computer. However, while participants communicated using their computers, they were also able to see and hear others while typing their responses into the computer.

The Internet-simulated condition was designed to represent the lowest level of social presence by artificially separating participants from access to any verbal or non-verbal communication cues while participating in a chat room focus group discussion. In this condition, participants were asked to take part in a discussion while being isolated from one another by physical barriers and the use of noise-reducing headphones. This condition represented the closest approximation available at the data collection site that could simulate the isolation from verbal, non-verbal, or visual information normally exchanged in social communication that would be expected to occur in a discussion conducted over the Internet.

Hypotheses were generated from a review of the published research literature. Hypotheses were specified for testing for differences between CM and FTF groups as well as the impact of social presence on the process of conducting the focus groups. The following hypotheses were specified for CM and FTF group comparisons in the study:

1. Compared with the FTF condition, participants in both the on-line conditions will demonstrate a higher level of participation as measured by the number of comments.

2. Compared with the FTF condition, participants in both on-line conditions will provide more unique comments.

3. The quality of discussion, as measured by the number of relevant and off-topic comments, will be the same for all groups.

All hypotheses were made to be consistent with the intended differences between each of the three conditions. The assumption was that the FTF condition would represent the highest level of social presence, with the Computer-mediated being at a medium level of social presence and the Internet-simulated condition being the lowest. The following hypotheses were specified for the impact of social presence on group comparisons in the study:

1. Compared with the FTF condition, participants in both on-line conditions will have lower perceptions of social presence.

2. Participant satisfaction with the overall focus group experience will increase as a function of the level of social presence.

After completing the data collection for the study, transcripts were generated for each of the 27 focus groups. This involved transcribing the tape recordings of the focus groups for all of those groups in the FTF condition and printing the computerized record (or transcript) for those in the CM condition. Transcripts and moderator notes for each of the 27 focus groups were put into individual project folders along with the questionnaires and informed consent forms completed by each of the participants in that group.

One transcript from each of the different conditions was selected at random and used by the researchers to develop the guidelines for coding the data from the verbatim transcripts. A guide for coding the transcripts was developed, along with examples and practice exercises. These materials were used to train a team of four graduate students from The University of Memphis who were hired to conduct the coding of the data. The graduate students received eight hours of training in how to code the data. The training included both instruction and application exercises designed to ensure that all of the students were able to consistently score the transcripts in a similar manner. All graduate student raters were able to successfully demonstrate proficiency in using the scoring guidelines resulting in a high degree of agreement among raters.

In the process of coding the transcripts, the raters recorded seven different pieces of information on a group rating form. A group rating form was completed for each of the 27 focus groups by each of the 4 raters. The information recorded on the group rating form is listed below with a short description of each of the different scores:

1. *Number of participation attempts.* Participation attempts were measured by the number of times an individual in the group made a comment. A participant received credit for a participation attempt each time they made a comment in the

conversation. Multiple credits were not given for a single attempt that used more than one sentence, unless it was separated by comments from other participants.

2. *Number of relevant comments.* Relevant comments were considered to be ones that were on the topic of discussion, in reference to the question being asked by the moderator, or to any previous question. Relevant comments included supporting examples and explanations.

3. *Number of irrelevant or off-topic comments.* Irrelevant comments were completely unrelated to the focus group topic or any question posed by the moderator. Pleasantries, small talk, comments about the chat software, the room, or the moderators themselves were also considered off-topic.

4. *Length of total comments.* The length of total comments was measured by counting the individual words used in the comments for each individual participant.

5. *Length of relevant comments.* The length of relevant comments was measured by counting the individual words used in the relevant comments made by individual participants across the length of each focus group.

6. *Number of disagreements.* Disagreements and insults were recorded to measure intra-group conflict. Disagreements were contradictory statements made by one individual to another individual's comment. Insults were counted as a conflict if they were made toward another participant in the group or the group in general.

7. *Total number of comments.* Total comments included relevant and irrelevant comments. Generally, every time a participant successfully entered the conversation without being cut off, his or her statement was considered as one comment regardless of the number of ideas presented in that participation attempt.

Inter-rater reliability was assessed following the study by an audit of the ratings generated by the graduate students. The resulting scores ranged from .74−.99 for each of the 7 scores indicating adequate agreement between raters. The average of the four ratings was used as the value for each of the seven scores for individuals (and the average of all group members for group level data).

Data Processing: Questionnaire Scales

- Perceived Social Presence Scale
  - Created an 8-item scale to measure perceived social presence based on the published research literature (Rice 1993; Short et. al, 1976; Tu, 2000)
  - Internal reliability of the scale was assessed at .84 using the alpha coefficient
  - A scale score was created by calculating the average for each of the 8 items (scores maintained their original 1-5 scale, with larger numbers meaning greater perceived social presence)
- Participant Satisfaction Scale
  - Created a 4-item satisfaction scale which focused on participants' enjoyment of the focus group process, level of comfort, and willingness to participate in future focus groups
  - Internal reliability of the scale was assessed at .88 using the alpha coefficient
  - A scale score was created by calculating the average for each of the 4 items (scores maintained their original 1-5 scale, with larger numbers meaning greater participant satisfaction)
- Extroversion Scale
  - Utilized a 20-item extroversion scale from the International Personality Item Pool (IPIP, 2001) which is based on the Five Factor model of personality (McCrae & Costa, 1990).
  - Internal reliability of the scale was assessed at .92 using the alpha coefficient
  - A summary score was created by adding the values for each of the 20 items (resulting in a range of scores 20-100, with larger numbers meaning greater extroversion)

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In addition to collecting data on the focus group discussion via verbatim transcripts, the study also required participants to complete a short 4-page questionnaire and an Informed Consent form). The questionnaire assessed participant background characteristics, extroversion personality characteristics, and perceptions of the focus group experience. The questionnaire contained a description of the study, Privacy Act statement, and questions that were divided into two sections, "Your Background" and "Focus Group Evaluation." The section titled "Your Background" focused on assessing demographic characteristics, and experience/comfort with the use of computers and the Internet for communication activities such as e-mail, on-line chats, instant messaging, or others. The section titled "Focus Group Evaluation" contained questions focused on assessing participant satisfaction, perceptions of social presence, and extroversion personality tendencies. Scores for each of these constructs were computed and used in the study as variables in the analyses. A description of each of these scores and how they were computed can be found below:

1. *Perceived Social Presence.* Since there was no agreed upon measure of social presence in the literature, the authors constructed a scale containing 18 items that assessed participant perceptions of various attributes of social presence experienced. Items for this scale were taken from the work of Rice (1993), Short et al. (1976), and Tu (2000). The questions in this scale were presented as statements that study participants rated according to how much they agreed or disagreed using a 5-point Likert-type scale. To assess how well the questions held together as a scale, they were subjected to internal reliability analysis by use of the coefficient alpha method. Initial reliability estimates indicated the need to drop five questions from the scale to improve internal consistency. Dropping these poor items resulted in a coefficient alpha of .84, indicating that the scale

had high consistency. A scale score for social presence was created by calculating the average of responses to the 13 remaining items for each participant. The resulting scores maintained the original range of 1–5, with larger numbers indicating greater perceived social presence.
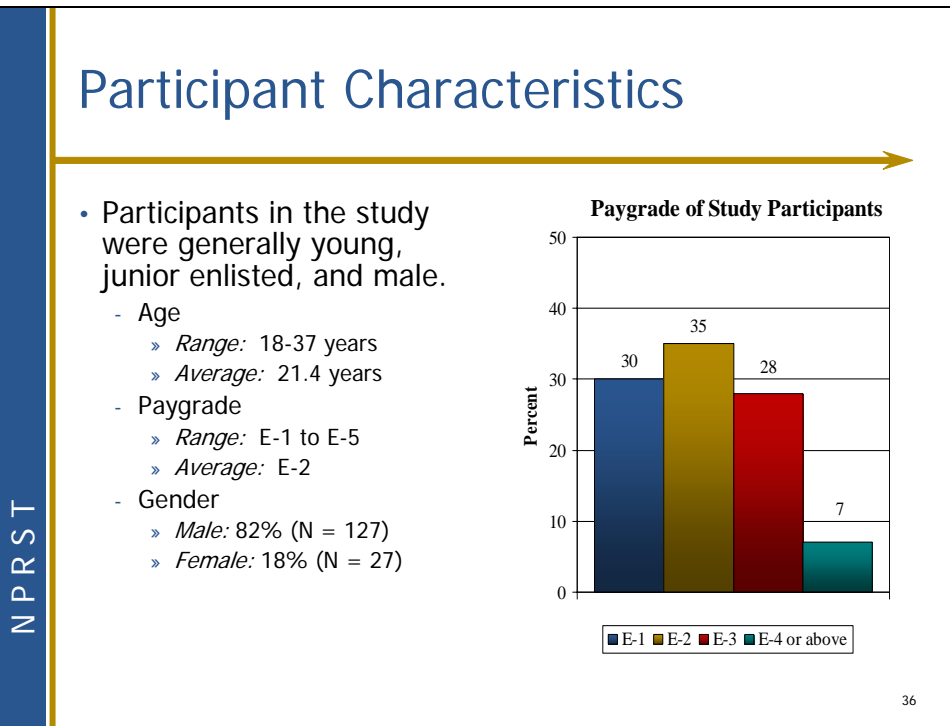
2. *Participant Satisfaction.* The authors wrote a short scale of six questions to assess global perceptions of the focus group experience. The questions were presented as statements that study participants rated how much they agreed or disagreed using a 5-point Likert-type scale. Within this group of questions, four items focused on participant satisfaction with the focus group experience and their willingness to take part in future focus groups. The questions were subjected to internal reliability analysis by use of the coefficient alpha method. The resulting coefficient alpha of .88 indicated that the scale had high consistency. Calculating the average of responses to the four items for each participant created a scale score for participant satisfaction. The resulting scores maintained the original range of 1–5, with larger numbers indicating greater satisfaction.

3. *Extroversion Tendencies.* To measure the level of extroversion personality tendencies present in study participants, the researchers used a 20-item scale from the International Personality Item Pool (IPIP, 2001). The measure is a statistically equivalent alternative developed by IPIP as a measure of extroversion as conceived by the Five Factor model of personality (McCrae & Costa, 1990). The questions in this scale were presented as statements that study participants rated according to how much they agreed or disagreed using a 5-point Likert-type scale. The questions were subjected to internal reliability analysis. The resulting coefficient alpha of .92, which is consistent with previous IPIP research (IPIP, 2000), indicated that the scale had high consistency. A summary score was created using the 20 items by adding the values of each item together. The resulting scores ranged from 20–100, with larger numbers indicating greater extroversion tendencies.

**Impact of Social
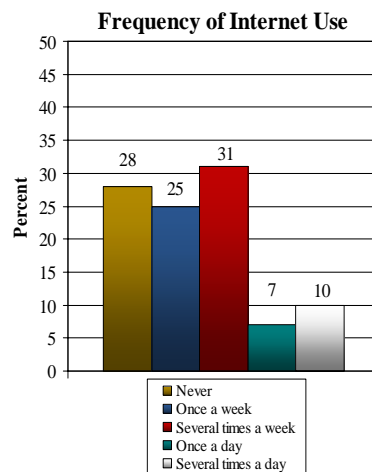Presence on
Focus Group Success**

Results

The following section provides a review of the results of the study. A short description of the characteristics of the sample appears first, followed by a presentation of the results in order of the hypotheses stated in the methods section of this report. In addition to the seven stated hypotheses, two additional auxiliary hypotheses were tested and their results appear in this report. The first of these auxiliary hypotheses evaluates the differences in the level of intra-group conflict experienced in each of the three study conditions. Finally, this section concludes with a simple listing of the most significant findings or themes from the content analyses of the verbatim transcripts of the focus groups. This information is provided to give the reader an idea of the practical value of conducting the on-line focus groups to gain content information about a particular topic.

Participant Characteristics

- Participants in the study were generally young, junior enlisted, and male.
  - Age
    - » *Range:* 18-37 years
    - » *Average:* 21.4 years
  - Paygrade
    - » *Range:* E-1 to E-5
    - » *Average:* E-2
  - Gender
    - » *Male:* 82% (N = 127)
    - » *Female:* 18% (N = 27)

Paygrade of Study Participants

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A total of 156 junior enlisted Sailors (E-1 to E-3) and petty officers (E-4 to E-6) from NTC Great Lakes participated in the study. In two cases participants did not respond to all of the demographics leading to totals on most demographics of 154. In general, participants were young, in the lower paygrades, and male. Participants averaged 21 years of age, with a range in age from 18 to 37 years. Only 18 percent of the participants in the study were female, which is slightly higher than the current gender distribution of Sailors in the Navy. All participants in the focus groups were lower ranking enlisted Sailors who were then attending "A" School programs at the Service School Command at NTC Great Lakes. "A" School programs represent the initial occupational specialty training obtained by enlisted Sailors at the start of their military career. Since junior enlisted Sailors make up the majority of the personnel population at the base, they were targeted as participants for the study. In the present study, 93 percent of those who participated in the focus groups were in the category of junior enlisted personnel.

Participant Experience with Computers/Internet

- Study participants had a great deal of experience and comfort in working with computers
  - 92% had experience with computers
  - 89% reported that they were very comfortable working with computers
  - 93% have used the Internet at some time
    - » The majority of participants (51%) had 4 or more years of experience with using the Internet at the time of the study
  - 83% had used Internet chat or instant messaging software
  - 83% reported that they were comfortable using Internet chat or instant messaging software

Frequency of Internet Use

(bar chart, Percent 0–50)
- Never: 28
- Once a week: 25
- Several times a week: 31
- Once a day: 7
- Several times a day: 10

Legend:
- Never
- Once a week
- Several times a week
- Once a day
- Several times a day

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Participants in the study had a high degree of experience and familiarity with using computers and communicating on the Internet. Ninety-two percent reported that they had previous experience with computers, and most (89%) were comfortable with using computers in a wide variety of contexts. In addition, participants had a great deal of familiarity with the Internet. Ninety-three percent of participants had used the Internet at some time in the past five years. Participants showed a great deal of experience with the Internet, with the majority (51%) reporting four or more years of active use of the Internet. Eighty-three percent of the enlisted Sailor participants had previous experience with chat rooms or instant messaging over the Internet. Of this group, all participants reported that they were comfortable with this style of communication and that they frequently used chat rooms when given the opportunity.

In contrast to the great deal of experience participants had with the Internet, when asked how often participants used the Internet since they joined the Navy, over half reported that they have used the Internet less than once a week. The primary reason given for this by study participants was that they did not have good access on base to the Internet. Study participants reported that as students, there were only a few locations on base for them to gain access to the Internet, that the majority charged for access by the minute, and that all of these locations tended to have long lines of Sailors waiting to use the computers. Most of the participants reported that they could not afford to pay the fees and so they did not use the Internet as regularly as they had prior to joining the Navy.

Level of Participation

- Hypothesis 1:
  - Compared with the face-to-face condition, participants in both on-line conditions will demonstrate a higher level of participation as measured by the number of comments
- Results:
  - Individual Participation Rate:
    » Main Effect: *Non-significant*
      – $F(2, 153) = 0.45$, p = 0.98
    » No difference was found in the number of comments made by participants in each of the different modes

Individual Participation Rates by Type of Focus Group

	M	SD	n
Internet-based	66.8	32.5	51
Computer-mediated	68.5	23.6	52
Face-to-face	63.4	27.8	53

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The first hypothesis stated that "compared with the face-to-face condition, participants in both the on-line conditions will demonstrate a higher level of participation as measured by the number of comments." Individual participation rates were calculated by counting the number of comments each participant made during the process of the focus group discussion. Since the focus of the hypothesis was on the impact of the conditions on individuals, the participation rates were calculated and tested at the individual level. The means obtained from individual participation rates across the three conditions were similar; however, as predicted, the computer-based conditions had higher mean scores than the face-to-face condition, but they were not significantly different. The means were subjected to an analysis of variance (ANOVA) test, which showed no statistically significant differences in the individual level of participation across the three conditions, $\underline{F}(2, 153) = 0.45$, p = 0.98.

Quantity of Information Obtained

- Hypothesis 2:
  - Compared with the face-to-face condition, participants in both on-line conditions will provide more unique comments
- Results:
  - Number of Unique Ideas Generated:
    » Main Effect: *Non-Significant*
      – $F_{(2, 24)} = 1.35$, $p = 0.28$
    » No difference was found in the number of unique ideas generated by groups in each of the different modes
  - Average Number of Words Used:
    » Main Effect: *Significant*
      – $F_{(2, 24)} = 47.33$, $p < .01$
    » Participants in the face-to-face condition used a significantly greater number of words while participating in the discussion

Number of Unique Ideas Generated by Type of Focus Group

	M	SD	n
Internet-based	55.2	11.4	9
Computer-mediated	48.4	12.7	9
Face-to-face	54.1	13.6	9

Number of Words Used by Type of Focus Group

	M	SD	n
Internet-based	2,361	658.7	9
Computer-mediated	2,593	877.0	9
Face-to-face	6,234	1,219.7	9

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The second hypothesis stated that "compared with the face-to-face condition, participants in both on-line conditions will provide more unique comments." Evaluation of this hypothesis focused on two types of information obtained from participants: the number of unique ideas generated and the overall number of words used in focus groups. The first type of information, number of unique ideas generated, represents the most significant part of trying to answer this question. To remain consistent with previous studies in the literature (e.g., Bordia, 1997; Olaniran, 1994; Parent et al., 2000), the quantity of information produced by each group in the three conditions was measured by total number of unique ideas. This is primarily due to the fact that one of the main reasons for conducting focus groups is to obtain unique and explanatory content or qualitative data on a particular subject. A related, but much less significant, measure of the quantity of information obtained in a focus group is the sheer number of words used to communicate in the discussion process. This measure may be problematic due to the fact that participants may say a great deal without generating useful or unique opinions, reactions, or ideas during the discussion. This second type of information is evaluated here as a way of providing a more comprehensive evaluation of the overall quantity of information generated during the course of the focus group conducted in this study.

The number of unique ideas generated by each focus group was calculated by summing the number of unique comments made by all individuals in each group. The means were subjected to an ANOVA test, which showed no significant differences in the number of unique ideas across the three conditions, $F_{(2, 24)} = 1.35$, $p = 0.28$. So while the individual means appeared to show some variation, no differences were found between them on the number of unique ideas generated.

The average number of words used by participants to communicate during the focus group was calculated by summing the number of words by each individual within a group. This number was then divided by the actual number of participants in the group to arrive at the average number for the group. The means were subjected to an ANOVA test, which showed a significant difference in the number of words used across the three conditions, $F_{(2, 24)} = 49.60$, $p < 0.01$. The results indicated that those in the face-to-face conditions used significantly more words than those in either of the computer-based conditions. This finding is not surprising; however, in that it is well known that people tend to use more words when communicating verbally than in writing.

Together these results indicate that while participants used more words in the face-to-face conditions, all groups tended to produce similar results in the overall number of unique ideas generated during the discussion. Both face-to-face and computer-based focus groups tend to produce similar amounts of information, even though participants use fewer words in computer-based conditions.

Quality of Information Obtained

- Hypothesis 3:
  - The quality of discussion, as measured by the number of relevant and off-topic comments, will be the same for all groups
- Results:
  - Number of Relevant Comments:
    » Main Effect: *Non-Significant*
      – F (2, 24) = 0.76, p = 0.48
    » No difference was found in the number of relevant comments made by groups in each of different modes
  - Number of Off-topic Comments:
    » Main Effect: *Significant*
      – F (2, 24) = 8.56, p < 0.01
    » Participants in the Computer-Mediated and Internet Simulated focus group conditions were more likely to make off-topic comments while participating in the discussion

Number of Relevant Comments by Type of Focus Group

	M	SD	n
Internet-based	309.8	111.5	9
Computer-mediated	308.4	81.0	9
Face-to-face	356.1	84.6	9

Number of Off-topic Comments by Type of Focus Group

	M	SD	n
Internet-based	68.6	22.8	9
Computer-mediated	87.4	58.3	9
Face-to-face	17.1	15.9	9

The third hypothesis stated that "the quality of discussion, as measured by the number of relevant and off-topic comments, will be the same for all groups." The focus of this hypothesis was on how well the participants in the three conditions were able to stay on task in the focus group discussions. Groups that are able to stay on task and focus on the topic of discussion have been found to generate more useful data than groups that frequently stray away from the topic of focus (Edmunds, 1999). To evaluate this hypothesis, two opposing types of information were collected and tested for differences: the number of relevant comments and the number of off-topic comments. The number of relevant comments was used to assess the usefulness of the information obtained. Groups that produce more relevant or on-topic comments should yield better data. In contrast, the number of off-topic comments represents the amount of time that the group members were engaging in communication unrelated to the purpose of the group. The higher the number of off-topic comments in a group, the more difficulty a focus group will have in producing useful data. The present study assumed that there would be no difference between the numbers of on-topic (i.e., relevant) and off-topic (i.e., irrelevant) comments made by participants in the three conditions.

The number of on-topic comments was calculated by summing the number of comments made by each individual that were on the topics or questions introduced by the moderator. The numbers for each individual were then added together and divided by the actual number of participants in that group to arrive at an average number of on-topic words used in the discussion. The means were subjected to an ANOVA test, which showed no significant differences in the number of relevant comments made by group members in each of the three conditions, $\underline{F}$ (2, 24) = 0.76, p = 0.48.

The number of off-topic comments was calculated in a similar manner to the on-topic comments; however, the focus was on the number of comments that were made about topics other than what had been introduced by the moderator. The means were subjected to an ANOVA test, which showed a significant difference in the number of off-topic comments made by participants across the three conditions, $F(2, 24) = 8.56$, $p < 0.01$. Post-hoc Tukey tests were conducted to evaluate which conditions differed from the others. The results indicated that both of the computer-based conditions were significantly more likely to be off-topic than participants in the face-to-face condition. Together, the results indicate that even though the discussion in both computer-mediated and Internet-based conditions got off-topic more than face-to-face groups, they still produced similar numbers of unique ideas and relevant comments.

Perceived Social Presence

- Hypothesis 4:
  - Compared with the face-to-face condition, participants in both on-line conditions will have lower perceptions of social presence
- Results:
  - Perceived Social Presence:
    » Main Effect: *Non-significant*
      - $F_{(2, 152)} = 0.56$, p = .57
    » No difference was found in the perceived level of social presence by participants in each of the different modes

Perceived Social Presence by Type of Focus Group

	M	SD	n
Internet-based	4.2	0.48	50
Computer-mediated	4.1	0.56	52
Face-to-face	4.2	0.39	53

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The fourth hypothesis stated that "compared with the face-to-face condition, participants in both on-line conditions will have lower perceptions of social presence." The focus of this hypothesis was on the level of social presence perceived by each of the participants in the three conditions of the focus group discussions. The means of the scores for the three groups appeared to be almost identical with the overall average being 4.2 (a moderately high level of social presence) across the 3 conditions. An ANOVA test showed no significant differences in the perceived level of social presence as reported by group members in each of the three conditions, $F_{(2, 152)} = 0.56$, p= 0.57.

Participant Satisfaction

- Hypothesis 5:
  - Participant satisfaction with the overall focus group experience will increase as a function of the level of social presence
- Results:
  - Correlation of Perceived Social Presence and Participant Satisfaction
    - » Main Effect: *Significant*
      - – r = .51 (p < 0.01, n = 152)
    - » Significant correlation was found between perceived social presence and participant satisfaction
  - Participant Satisfaction:
    - » Main Effect: *Non-significant*
      - – F (2, 150) = 0.04, p > .96
    - » No difference was found in the level of participant satisfaction in each of the different modes

Participant Satisfaction by Type of Focus Group

	M	SD	n
Internet-based	4.0	0.55	48
Computer-mediated	4.0	0.70	52
Face-to-face	4.0	0.54	53

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The fifth hypothesis stated that "participant satisfaction with the overall focus group experience will increase as a function of the level of social presence." The focus of this hypothesis was on the level of satisfaction with the focus group reported by members of the groups in each of the three conditions. The means for participant satisfaction did not appear to vary among participants, with 87 percent being satisfied with their experience in the focus group. To test the fifth hypothesis, the relationship between perceived social presence and participant satisfaction was first explored by use of a Pearson product moment correlation coefficient. The resulting Pearson product moment correlation coefficient indicated that there was a significant relationship between perceived social presence and participant satisfaction, $r = .51$ ($p < 0.01$, $n = 152$). In addition, an ANOVA showed no significant differences in the level of satisfaction by group members in each of the three conditions, $F (2, 150) = 0.04$, $p = 0.96$.

Taken together, these results indicate that while there is a relationship between perceived social presence and participant satisfaction, no actual group differences were found in the level of participant satisfaction. It does not appear that the focus group condition contributed significantly to ratings of satisfaction with the focus group experience.

Intra-group Conflict

- Auxiliary Hypothesis 1:
  - The amount of intra-group conflict (e.g., disagreements, insults, or other conflicts) will be the same for all participation modes
- Results:
  - Intra-group Conflict:
    - » Main Effect: *Significant*
      - – $F_{(2, 24)} = 5.64$, p = 0.01
    - » Participants in the computer-mediated focus group condition were significantly more likely to make insults or have disagreements with other participants than those in other modes of participation

Number of Disagreements, Insults, or Other Conflicts by Type of Focus Group

	M	SD	n
Internet-based	4.8	2.8	9
Computer-mediated	14.2	10.9	9
Face-to-face	4.2	4.7	9

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The fifth hypothesis stated that "participant satisfaction with the overall focus group experience will increase as a function of the level of social presence." The focus of this hypothesis was on the level of satisfaction with the focus group reported by members of the groups in each of the three conditions. The means for participant satisfaction did not appear to vary among participants, with 87 percent being satisfied with their experience in the focus group. To test the fifth hypothesis, the relationship between perceived social presence and participant satisfaction was first explored by use of a Pearson product moment correlation coefficient. The resulting Pearson product moment correlation coefficient indicated that there was a significant relationship between perceived social presence and participant satisfaction, $r = .51$ ($p < 0.01$, $n = 152$). In addition, an ANOVA showed no significant differences in the level of satisfaction by group members in each of the three conditions, $F_{(2, 150)} = 0.04$, $p = 0.96$.

Taken together, these results indicate that while there is a relationship between perceived social presence and participant satisfaction, no actual group differences were found in the level of participant satisfaction. It does not appear that the focus group condition contributed significantly to ratings of satisfaction with the focus group experience.

For the purposes of measuring intra-group conflict in this study, the researchers constructed a measure of conflict by having the graduate students code the number of disagreements that occurred in the process of conducting each focus group. Disagreements between group members, insults directed at other group members, and other contradictory statements made during the course of the focus group were all coded as conflict in this study. Scores for each individual were constructed by counting the number of statements that were coded as a disagreement or conflict. To construct

the group level measure of conflict, scores for each of the participants were summed to arrive at a total number of disagreements or other conflicts experienced by the group. An ANOVA test showed significant differences in the amount of conflict between group members in each of the three conditions, $F(2, 24) = 5.64$, $p = 0.01$.

Post-hoc Tukey tests were conducted to evaluate which conditions differed from the others. Participants in the computer-mediated condition showed significantly more conflict or disagreements with other group members than those in either of the other two conditions. While this finding may be surprising, the condition presented an interesting combination of features of the other two conditions. While participants in this mode contributed to the focus group discussion via their computers, they had full access to visual, auditory, and other social cues (e.g., they were able to look up from their computer to see and hear others). Being able to see and hear other participants may have contributed in some way to the observed higher level of conflict.

The second auxiliary hypothesis stated that "participant satisfaction with the overall focus group experience will increase as a function of extroversion." This hypothesis focused on the impact of extroversion, a personality characteristic that drives people toward social contact, on the focus group process. First, the researchers were interested in any potential differences in the level of extroversion found between the participants in each of the conditions. This was important to establish that there was no systematic bias being introduced by extroversion which had been disproportionately distributed to one or another group (or condition). Second, the researchers were interested in the relationship between extroversion and satisfaction with the focus group process. Previous research by McCrae and Costa (1990) has shown that those high in extroversion tend to prefer higher levels of social interaction than those low in the personality characteristic. Specifically, the researchers proposed that as the level of social interaction increased, those high in extroversion would be more satisfied with the focus group experience than those low in extroversion.

For the purposes of measuring extroversion, the researchers used a 20-item measure developed by the International Personality Item Pool (2001). To evaluate the first part of this hypothesis, the mean scores were subjected to an ANOVA test, which showed no significant differences in the level of extroversion between group members in each of the three conditions, $F_{(2, 150)} = 0.95$, p = 0.42. To answer the second part of the hypothesis, the researchers evaluated the relationship between level of extroversion and participant satisfaction by use of a Pearson product moment correlation coefficient. The resulting Pearson product moment correlation coefficient indicated that there was a significant relationship between perceived extroversion and participant satisfaction, r = .21 (p < 0.01, n = 153). Since extroversion was shown to be significantly correlated with participant satisfaction, an additional ANOVA test was conducted to test for group

differences using extroversion as a covariate. This analysis showed no significant differences in the level of satisfaction by group members in each of the three conditions, $F (2, 150) = 0.10$, $p = 0.41$.

Taken together, these results indicate that while extroversion and participant satisfaction are related, extroversion does not appear to cause differences in the level of satisfaction reported by participants.

Major Content Findings

- Few junior enlisted Sailors report attending raves or know others who attended rave parties
  - Most participants agreed that raves were not the kind of event they either wanted to attend or be caught attending by superiors
  - Sailors who had attended raves in the past reported that the music and dancing rather than the drugs were the most important reason they attended these events
- Obtaining cost-effective and safe transportation appeared to be the major concern of junior enlisted Sailors with respect to their off-duty activities
  - The lack of dependable transportation on base was often cited as a major problem for junior enlisted Sailors who have limited time off from their duties
  - The most common off-base transportation used by Sailors were the "Jam Vans"
    - » This mode of transportation was cited as being expensive, unreliable (e.g., drivers apparently do not always come back and pick up passengers after dropping them off) and potentially dangerous (e.g., poor driving habits, drugs/alcohol present at times, etc.)
- Sailors overwhelmingly preferred to be off the base whenever possible for their off-duty activities
  - The most common activities cited by junior enlisted Sailors were going to local shopping malls, visiting the city of Chicago, or visiting friends/family in the area around the base

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This slide will deal with a short review of the major themes in the content data generated in the focus groups. This involves careful reading of each of the transcripts and recording of the number of times a particular response is made or any similar responses. The topic of the focus groups for this study centered on the off-duty activities of Sailors stationed at NTC Great Lakes. Discussions included both on-base and off-base activities, transportation, costs, and a special focus on raves.

Contrary to what officials at NTC Great Lakes suspected, the content of the group discussions indicated that few junior enlisted Sailors reported attending raves or knew others who attended rave parties. Most of the participants agreed that raves were not the kind of event they either wanted to attend or be caught attending by superiors. Many indicated that they were instructed by their teachers and other members of the staff to avoid raves due to the negative impact that an arrest at one of these parties might have on their Navy career. The few Sailors who reported that they had attended raves in the past said that the music and dancing rather than the drugs were the most important reason they attended these events. However, the authors suggest caution in interpreting these content findings. Participation in raves is likely to have been underreported by study participants due to a fear of reprisal by the chain of command at NTC Great Lakes. While participants were assured anonymity at the beginning of the study, many may have had continuing fears that leadership might take action against them or their shipmates based on what they said.

When questioned about transportation on and off base, the majority of participants indicated that their main concern was obtaining cost-effective and safe transportation when traveling off base. The most common off-base transportation used by Sailors was the "Jam Vans." These are independent companies providing transportation for Navy

personnel and others in the community, similar to a taxi service, utilizing vans instead of cars. This mode of transportation was cited as being expensive, unreliable, and potentially dangerous. Sailors reported incidents of Jam Vans not always coming back to pick them up after dropping them off. The focus group participants also reported other incidents of poor driving behavior and the presence of drugs/alcohol. They also indicated that on-base transportation was poor and unreliable, especially for junior enlisted Sailors.

Overall, Sailors overwhelmingly preferred to be off base whenever possible for their off-duty activities. The most common off-duty activities cited by junior enlisted Sailors were going to the local shopping malls, visiting the city of Chicago, or visiting friends/family in the area around the base.

Impact of Social Presence on Focus Group Success

Conclusions & Discussion

The study sought to compare traditional face-to-face with two computer-based focus group methods to evaluate the differing levels of social presence and the overall success of the approach. The study successfully completed 27 focus groups, using a sample of 156 junior enlisted and petty officers currently in training at the NTC Great Lakes, to evaluate differences in the success of FTF and CM focus groups. Participants in randomly assigned groups of 5–6 participated in one of the three following conditions: traditional face-to-face (standard focus group utilizing verbal and non-verbal communication); computer-mediated (group members in same location but all communication via computer); and Internet-simulated (group members in same location but separated by barriers and noise canceling headphones, with all communication via computer).

While differences were found in the number of words used to communicate, the three conditions achieved similar results in level of participation, participant satisfaction, and quantity/quality of information obtained. The only exception to this finding was that participants in the on-line conditions, especially the computer-mediated condition, were more likely to make off-topic comments or engage in conflict with other group members (e.g., insults, confrontation, etc.). This finding may be due in part to the hybrid nature of the computer-mediated condition. This condition was designed to be a combination of features from the two extremes of either the FTF condition (e.g., high social presence due to a high level of access to visual, spatial, and auditory social cues) and the Internet-simulated condition (e.g., low social presence due to lack of access to visual, spatial, and auditory social cues because participants had to rely on text messages only). Even though participants were instructed to communicate only via the computer, by not blocking off access to visual, spatial, and auditory cues in this condition, participants had access to much more information than in other

conditions. A possible explanation could be the fact that participants were able to see the reactions of others if they cracked a joke or insult via the computer. The facial expressions and laughter as a result of such comments encouraged and reinforced this behavior further adding to the amount of disagreement and conflict.

In contrast to what was expected, social presence did not distinguish between the different modes of participation. Even though the three participation modes were designed to be different on a number of features, participant social presence ratings did not differ. It is unclear why the study failed to find differences in the level of social presence. There may be a need for further development of the concept of social presence.

Overall the results indicate that conducting on-line focus groups can be done in a successful manner and achieve similar results as typically found in traditional face-to-face methods. While there are some differences in the amount of conflict and words used to communicate, similar amounts of unique information are obtained for both FTF and CM focus groups.

Discussion

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- Advantages
  - Experimental Design. Allowed researchers to draw conclusions about the impact of various types of focus groups on differences in quantity and quality of information obtained and group process factors.
  - Larger Sample Size. The use of a significantly larger sample size than in previous studies allowed for greater statistical power in the analyses.
  - Synchronous Chat-room Approach. Tested a synchronous chat-room method of conducting focus groups which provided a near-realistic test of what could be used by employers in the current work environment.
- Limitations
  - No Follow-up. The study will not conduct any follow-up on the validity of the content collected during the focus groups—we really have no way of knowing whether or not participants were honest during the group discussions.
  - Simulated vs.. "Real life." Laboratory simulation may be different enough from "real life" so that the results may not represent what could be expected if tested in the Fleet. Simulation used an Intranet which did not offer "real life" features such as the ability to use the Internet browser or other software to get out of the experimental situation and engage in other tasks (e.g., browse the Internet, receive e-mail, etc.).
  - Novelty of the Experiment. The novelty of the experiment may have negatively impacted measurement of participant satisfaction. Notes from the moderators indicate that participants often have restricted use of computers at their base.

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The findings indicate that overall results from the two different types of focus groups were similar in the quantity and quality of information produced. In contrast to what was expected, perceived social presence did not differ between the conditions.

The present study has both strengths and weaknesses. Some of the strengths of this study included an experimental design, a large sample size, and a synchronous chat room. Unlike many previous studies, the present study utilized an experimental design. Study conditions were carefully constructed and administered to a sample of Sailors who were randomly assigned by group to participate in one of three different modes. This experimental design made the present study significantly more useful in evaluating differences in FTF and CM focus groups by controlling a wide variety of sources of error (e.g., selection bias, time, order effects). Second, this study used a significantly larger sample size than has been typically used in studies of this topic. Many previous studies comparing FTF and CM have used only 2–4 groups, with 4–8 members in each group. This study utilized 9 groups in each of the 3 conditions with 5–6 members in each group. The larger sample size used in this study ensures that results can be generalized across the experiment and that statistical tests would achieve adequate levels of power (Cohen, 1992) to detect differences in average responses where they exist. Third, the study tested a new synchronous chat room method of conducting focus groups. At present, with a little over 90 percent of officers and 80 percent of enlisted Sailors reporting access to the Internet (Olmsted & Underhill, 2003), it is important to utilize a method of conducting on-line communication that is viable in today's Navy. The promises of real-time audio and video communications over the Internet to any Sailor or Marine through the Navy/Marine Corps Intranet are in the future. Today, utilizing a text-based method of communication (e.g., synchronous chat room) researchers can realistically conduct focus groups over the Internet, and should be able to reach out to

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the over 80 percent of the Fleet who report access to the Internet today. In the future, as the on-line capabilities of the Fleet are improved, other methods of conducting focus groups over the Internet can be tested and implemented.

Some of the disadvantages of the study included the lack of a follow-up, the simulated vs. real-life nature of this experiment, and the novelty of the experiment for the Sailors who participated in the study. First, one of the major drawbacks to conducting focus groups as a method of data collection is that they do not provide a mechanism to do follow-up on the content or thematic data. The moderators who lead each group do ask participants to be truthful and forthcoming in their responses so that they encourage honesty in the process of conducting focus groups. However, moderators and others typically do not go back to participants, their work supervisors, or others and check to see if the responses are valid and reliable in relation to what is being reported. Research conducted by Clapper and Massey (1996) suggests that on-line communication provides an environment where people are free to express their opinions and that they are generally honest and forthcoming; however, the truthfulness of responses remains to be clearly demonstrated. Second, the study utilized an artificial laboratory setting to conduct the focus groups. The researchers specifically tried to find a setting for the focus groups that might simulate as closely as possible the conditions under which focus groups would take place out in the Fleet. The exception to this was that the Internet-simulated condition had to rely on simulating the separation that would be caused by participating on the Internet, rather than actually having the Sailors participate at separate locations throughout the base. In addition, participants were blocked from accessing many of the real-life features of their computer-workstations or the Internet by controls placed on the computers by the research team. The net result of the artificial nature of the laboratory setting may have adversely impacted the results of this study. Future studies will need to evaluate the impact of other and possibly more realistic settings in which to conduct focus groups. Third, the novelty of being pulled from classes and being asked to participate in a research study may have in some way changed the behavior of participants. .

Future Directions

- "Real Life" Testing
  - Do further testing of the chat-room approach to conducting focus groups utilizing more "real life" setting such as the Sailor's own computer at their worksite. This will allow for a more realistic test of the process of conducting remote Internet-based focus groups.
- Test Other Populations
  - Junior enlisted Sailors may be systematically different than other demographic groups within the Navy. Research indicates that younger members of the U.S. population tend to have more experience with computers and chat-rooms.
- Expand the Social Presence Literature
  - The design of conditions and measures of Social Presence used for this study were developed using the existing published literature. Since there is a significant lack of literature on the subject, the measures and conditions may not accurately represent the construct as originally intended by the originators of social presence theory. Further work should be done on defining the construct in a wider variety of settings and delineating the impact that it has on the communication process.

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A review of the findings of this study points towards a number of things that will be necessary to validate the use of the chat room format or other methods of on-line focus groups. First, there is a distinct need for more real-life testing. Experimental testing in the laboratory setting continues to be needed to explore the limits of this format of conducting focus groups. However, the artificial nature of this approach makes it poorly suited to adequately evaluate the method in the real-life settings that most people are likely to be in when called upon to participate in on-line focus groups. For instance, when research issues arise about operational problems in the Navy, the Sailors that researchers may want to reach most will not always be able to come to a lab to take part in a study. Instead, the chat room format is designed to allow Sailors or others to participate at their worksite, in computer labs, or at home regardless of their location. However, since testing has only been done so far in a laboratory setting, there is no information available about the practical limits of the approach. Issues such as selection of participants, real-time access to the Internet, electronic security, network bandwidth constraints, validating that users are who they say they are, and others will all need to be worked out in the future. We believe that this method shows good promise for future applications; however, significant real-life testing will be needed to demonstrate this.

Second, testing of this methodology needs to be extended to a wider variety of populations to ensure that it can be broadly implemented as a research method. The junior enlisted Sailors who made up the sample of the present study were chosen primarily because they were an easy group for researchers to gain access to. It will be important to demonstrate that the method works well on a wide variety of other demographic groups. For instance, one of the reasons why the computer-based focus groups in this study worked so well may have been because most of the participants had previous computer, Internet, and chat room experience. Other groups of people either in

the Navy or general population that have less exposure to or knowledge of computers, the Internet, and chat rooms may have more difficulty in responding in focus groups that are computer-based.

Third, there is a distinct need for the further development and expansion of the theory of social presence in the scientific literature. At the present, very little research on the concept of social presence has been published. A few studies have mentioned the concept that was originally proposed by Short et al. (1976); however, none have appreciably extended the theory. At the present, there is a need to further develop the theory and measures of the construct, or to find a suitable replacement to help researchers explain differences in the social context of different types of communication. The measures and design of conditions for this study were developed based on the small amount of existing literature. Since there is a significant lack of literature on the subject, the measures and conditions may not accurately represent the construct as intended by the originators of social presence theory. Further work should be done on defining the construct in a wider variety of settings and delineating the impact that it has on the communication process.

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Appendix A:
Focus Group
Recruitment Forms

INSTRUCTIONS FOR RECRUITING PARTICIPANTS
FOR THE FOCUS GROUP STUDY

BACKGROUND: This study seeks to expand on previous research comparing face-to-face and computer-based methods of conducting focus groups. Focus groups are structured group discussions designed to collect information from participants on their attitudes and opinions on a specific subject. As use of computers and the Internet becomes more widespread, traditional research activities such as focus groups are being shifted to new computer-based approaches. Recent research has produced mixed results with some studies finding the methods equivalent and others not equivalent. This study will evaluate the comparability of traditional face-to-face, computer-mediated *(group members in same location but all communication via computer)*, and Internet-based *(group members in different locations and all communication via computer)* focus groups. The results of the study will help Navy researchers determine if they are likely to receive useful and equivalent responses from Sailors when conducting computer-mediated or Internet-based focus groups.

SPONSOR: This study is jointly sponsored by the the Independent Laboratory Independent Research (ILIR) program, from the Office of Naval Research and the Training Analysis Cell there at the Naval Training Center Great Lakes.

SAMPLE: This study will use a sample of junior enlisted Sailors (E-1 to E-3) and petty officers (E-4 to E-6) who are currently in training programs at the Naval Training Center Great Lakes. A total of 9 focus groups (6 members each) in each of three conditions will be conducted resulting in a total sample of 162 Sailors.

POINT OF CONTACT: Murrey Olmsted, Navy Personnel Research, Studies, & Technology Department, (901) 874-2130 commercial telephone, (DSN) 882-2130, or murrey.olmsted@persnet.navy.mil (e-mail).

INSTRUCTIONS: Please read the material below to any of the Sailors within your program that may be able or interested in participating in this study. We are seeking volunteers for this study, so please do not in any way force Sailors to be a part of the study. After reading the material below, have any interested Sailors sign-up for a time-slot on the attached sheet.

To Be Read To Potential Study Participants:

Over the next two weeks, researchers from the Navy Personnel Research Studies and Technology Department at the Navy Personnel Command will be conducting a number of focus groups here at the Naval Training Center Great Lakes. These focus groups will focus on two objectives. First, to collect information on what types of on-base and off-base recreation activities Sailors like to participate in when they are off-duty. This information is being collected to assist policy makers in the process of reviewing current programs and evaluating potential changes to programs and services. Second, the researchers will be testing the comparability of face-to-face and computer-based methods of conducting focus groups. This is being done to facilitate the on-going integration of computers into the every-day work lives of Sailors.

The study will require the participation of a total of 162 enlisted Sailors. The researchers will be here conducting focus groups from 12-21 March. If you choose to participate, you will be asked to take part in a focus group discussion and complete a short questionnaire. This should involve approximately 1.5 hours of your time. All individual responses will be kept confidential. The group discussions are being taped recorded (or electronically saved) for the purpose of later transcribing and compiling the data. No identifying information will be used so comments will not be able to be tracked back to you or any other participant. In addition, this study is completely voluntary…so you cannot be forced to participate.

If you would like to participate in this study, please see _____
(insert name of LPO in charge here) to sign-up for a time slot.

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Impact of Social Presence on Focus Group Success
Schedule for Data Collection
Naval Training Center Great Lakes

22 April 2002 Monday

Arrive at NTC Great Lakes
Set up equipment

Location: Combat Systems A-Schools

23 April 2002 Tuesday	Group Number	Particpants Needed
8:00 to 10:00	Group 1	6
10:00 to 12:00	Group 2	6
13:00 to 15:00	Group 3	6
15:00 to 17:00	Group 4	6

24 April 2002 Wednesday	Group Number	Particpants Needed
8:00 to 10:00	Group 5	6
10:00 to 12:00	Group 6	6
13:00 to 15:00	Group 7	6
15:00 to 17:00	Group 8	6

25 April 2002 Thursday	Group Number	Particpants Needed
8:00 to 10:00	Group 9	6
10:00 to 12:00	Group 10	6
13:00 to 15:00	Group 11	6
15:00 to 17:00	Group 12	6

26 April 2002 Friday	Group Number	Particpants Needed
8:00 to 10:00	Group 13	6
10:00 to 12:00	Group 14	6
13:00 to 15:00	Group 15	6
15:00 to 17:00	Group 16	6
17:00 to 18:00	*Pack Equipment*	

Location: Engineering Systems A-Schools

29 April 2002 Monday	Group Number	Particpants Needed
8:00 to 10:00	*Set up equipment*	
10:00 to 12:00	Group 17	6
13:00 to 15:00	Group 18	6
15:00 to 17:00	Group 19	6
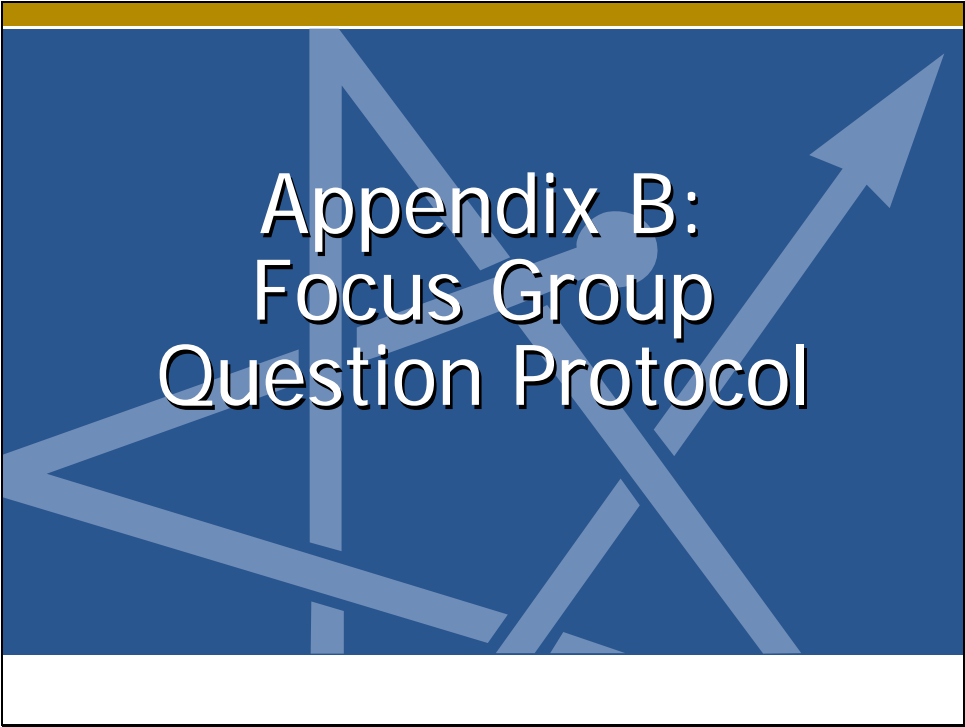
30 April 2002 Tuesday	Group Number	Particpants Needed
8:00 to 10:00	Group 20	6
10:00 to 12:00	Group 21	6
13:00 to 15:00	Group 22	6
15:00 to 17:00	Group 23	6

1 May 2002 Wednesday	Group Number	Particpants Needed
8:00 to 10:00	Group 24	6
10:00 to 12:00	Group 25	6
13:00 to 15:00	Group 26	6
15:00 to 17:00	Group 27	6
17:00 to 18:00	*Pack equipment*	

2 May 2002 Thursday	Group Number	Particpants Needed
Return to NPRST (Millington, TN)		

POINT OF CONTACT: If you have any questions regarding the study or the schedule, please contact Murrey Olmsted, (901) 874-2130 / (DSN) 882-2130 or Christina Underhill, (901) 874-2131.

Appendix B:
Focus Group
Question Protocol

IMPACT OF SOCIAL PRESENCE ON FOCUS GROUP SUCCESS

Outline of Focus Group Protocol

(Estimated Total Time: 52-60 minutes)

Moderator statement and introduction   **(1-2 minutes)**

Thank you for volunteering in today's focus group about on-base and off-base activities here at Naval Training Center Great Lakes. The focus groups that we will be conducting in the next two weeks are part of a larger study that will compare the results from three different methods of focus group discussions. I will be asking you all a series of questions regarding on-base and off-base activities. Murrey Olmsted or Christina Underhill will be the assistant moderator who will be taking notes on the discussion. We encourage you to discuss among each other the answers to our questions. There are no right or wrong answers, but we do expect that you will respect the opinions of others. All individual responses will be kept confidential. The group discussions are being taped recorded (or saved) for the purpose of later transcribing and compiling the data. No identifying information will be used on the transcripts so comments will not be able to be tracked back to you. Your participation is completely voluntary so if at any time you feel uncomfortable, you are free to leave without any explanation.

Additional Instructions for Computer Mediated Conditions

Computer Mediated Group

Please type your first name in the log-in prompt on the laptop in front of you. Once you have typed in your name, please click the "log-in" button and proceed to the electronic chat room. Please respond to the questions and provide any input on the discussion by typing in your response on the keyboard. When you have finished a response, please press the "return" key to post your response.

Internet Simulation Group

Use the same as additional instructions as above, with the addition of the following:

Now put on and adjust your headphones to make sure they fit securely over your ears. Please keep the headphones on your ears at all times during the group discussion. Your moderator will let you know when you can take the headphones off and when discussion is complete.

---

1. **Tell us your first name, which A-school program you are in, and what you do in your spare time?**

   (This is a question to introduce the participants. It will get them talking, and thinking about what they do in their "free" time.)

                                                               (4 minutes)

2. **What on-base activities do you use?**
   - What's appealing about these activities?
   - What's unappealing about these activities?

   (This is a non-threatening question that will be easy for the participants to answer. Answers to this question will give researchers an idea of what the Sailors like and dislike about on-base activities.)

3. What are some of your favorite places to go off-base?
- How often do you go off-base?
- What are some hot spots people go to, that you have heard of?

(When the Sailors go off base they have a tendency to get into more trouble (i.e. fights, public intoxication, drug use). This will help us understand what off-base activities are appealing and the frequency they are attended.)

(10 minutes)

4. We have heard that a common way for Sailors to get off base is to use "Jam Vans". Tell us your experiences with the Jam Vans.

(Jam Vans are big taxis that can transport groups of people. They are allowed on base so that the Navy has some means of regulating them. There have been complaints about the service. There is also an idea that they may be a source of drugs and alcohol on base. Several sexual assaults have taken place on the Jam Vans.)

(10 minutes)

5. We heard that raves are popular in the greater Chicago area. What have you heard about these events? What kinds of things have you heard about or experienced at the typical rave?
- Have you or any of your friends gone to a rave?
- How often are they held?
- Have you ever received an invitation to a rave? If so, how did receive it.

(Drinking and drug use are common at raves. Researchers know that Sailors go to them, but have no idea about what really goes on or how the Sailors find out about them.)

(15-20 minutes)

6. Is there anything else that you would like to share about the topic that you didn't get a chance to?

(4 minutes)

Primary Research Questions Requested by NTC Great Lakes
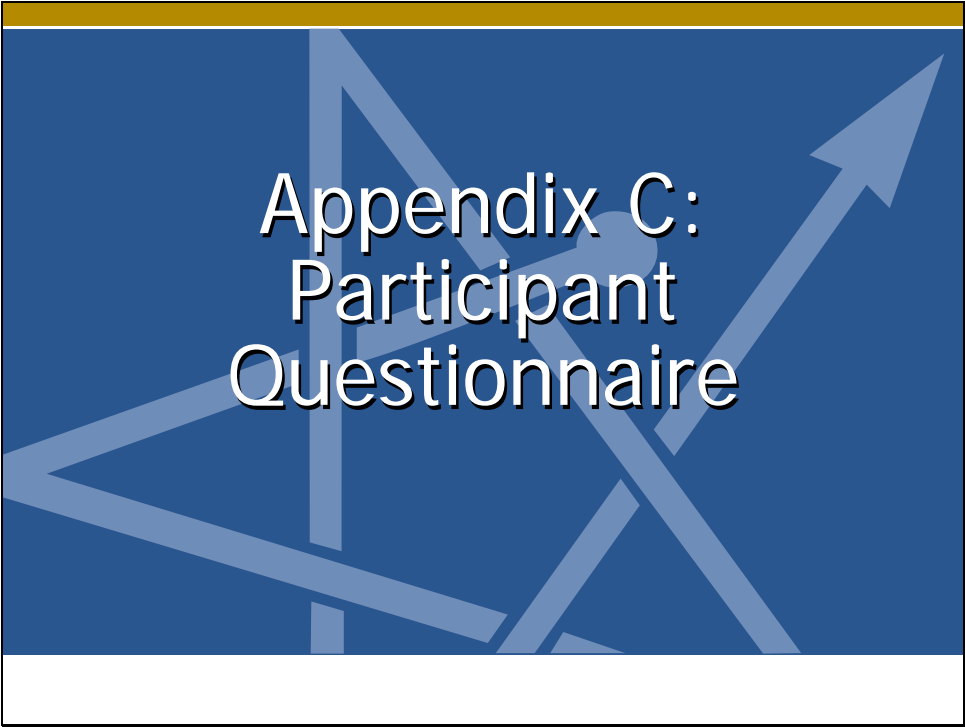
- Why are Sailors opting to go off base to raves and other places and engaging in risky behavior?
- What is different about on-base and off-base activities, and what can be done for on-base activities to make them more appealing?

The rationale behind this line of questioning would be if you could make the on-base activities more appealing than they wouldn't want to go off-base and engage in risky-behavior.

Back-up Questions

Besides the Prevent program, do any of your leaders or senior personnel give you advice about your lifestyle, values or behavior choices?
- Who tends to give this advice or counseling?
- What topics or subjects does this advice or counseling tend to be about?
- When does this advice or counseling take place?
- Where does this advice or counseling take place?

Appendix C:
Participant
Questionnaire

ISP

Participation Consent Form
(and Privacy Act Statement)

Public Law 93-579, called the Privacy Act of 1974, requires that you be informed of the purposes of this study and of the uses to be made of the information collected. The authority to collect this information is granted under Title 10, United States Code, sections 136 and 2358. Please read the following details regarding the study and sign at the bottom of this page if you wish to participate. Please ask any questions you may have before signing this form.

1. **Background/Purpose.** You are invited to participate in the present study, which seeks to expand on previous research comparing face-to-face and computer-based methods of conducting focus groups. The results of the study will help Navy researchers determine if they are likely to receive valid and reliable responses from Sailors when conducting Internet-based focus groups

2. **Information.** The project is sponsored by the Independent Laboratory Independent Research (ILIR) program of the Office of Naval Research. This program allows scientists to pursue basic and applied research on topics that will benefit both basic science and Navy researchers.

3. **Procedures.** If you agree to participate, you be asked to take part in a 45-60 minute focus group discussion. The proceedings of this focus group will be recorded for later evaluation by the research team using audio, video, or electronic taping techniques. Following the discussion, you will be asked to complete a short questionnaire that asks about your background, use of and familiarity with the Internet, and a few questions about your impressions of the focus group.

4. **Routine Uses:** The information you provide in this study will be processed, scanned and analyzed by Navy Personnel Research, Studies, and Technology (NPRST). The data provided by this study will be used to determine if there are differences in the impact of social presence on the quality of data collected in various types of focus groups.

5. **Risks and Benefits.** This research involves no risks. The benefits to the participation are that you are able to contribute the base of scientific data on the subject of computer-based focus groups.

6. **Compensation.** No tangible reward will be given.

7. **Confidentiality.** All of your responses will be held in confidence and will only be known by the researchers involved in this study (i.e. Murrey Olmsted and Christina Underhill). This includes any information collected for the purposes of this study including written, audio, video or electronic data. All data records will use random 4-digit numbers in place of names or other identifying information to protect your identity. All files and materials associated with this study will be stored in a secure location and any electronic files will stored using password and encryption protection. No information will be publicly accessible which could identify you as a participant. If data from this study are ever released to outside sources, all identifying information will be withdrawn from all files to protect your privacy.

8. **Voluntary Nature of the Project.** If you agree to participate, you are free to withdraw from the study at any time without prejudice. You will be provided a copy of this form for you records at your request.

9. **Points of Contact.** If you have any further questions or comments after the completion of this study, you may contact either Murrey Olmsted, (901) 874-2130 or Christina Underhill, (901) 874-2131.

10. **Statement of Consent.** I have read the above information. I have been given the opportunity to ask any questions I have about this study and have received adequate answers. I agree to participate in this study.

_____   _____
Participant's Signature   *Date*

_____   _____
Investigator's Signature   C-1   *Date*

ISP

Navy Personnel Research, Studies, and Technology

Millington, TN

The present study seeks to expand on previous research comparing face-to-face and computer-mediated methods of conducting focus groups. One of the fundamental strengths of focus groups is their ability to create a sense of community in evaluating and discussing a topic. This occurs in large part because participants work together as a group in the same location where they can see and hear each other, conveying a high degree of social presence. As use of computers and the Internet becomes more widespread, traditional research activities such as focus groups are being shifted to new computer-mediated approaches. Recent research has produced mixed results with some studies indicating equivalent and others non-equivalent social presence between face-to-face and computer mediated focus groups. In addition, while many researchers point to the promise of using the Internet for focus groups, there are no currently available experimental studies that have conducted a true Internet-based focus group in the literature. This study will evaluate the impact of social presence on the quantity and quality of participation of group members in face-to-face, computer-mediated *(group members in same location but all communication via computer)*, and Internet-based *(group members in different locations and all communication via computer)* focus groups. The results of the study will help Navy researchers determine if they are likely to receive valid and reliable responses from Sailors when conducting computer-mediated or Internet-based focus groups

Please read the following Privacy Act Statement below and then proceed to the next page when ready. The survey should take approximately 15 minutes of your time to complete.

Privacy Act Statement:

Purpose: Data from this study will be used to expand on previous research comparing face-to-face and computer-based methods of conducting focus groups. The results of the study will help Navy researchers determine if they are likely to receive valid and reliable responses from Sailors when conducting Internet-based focus groups. The information provided in this survey will be analyzed and maintained by the Navy Personnel Research, Studies, and Technology Department (PERS-1) of the Navy Personnel Command.

Routine Uses: None. This survey data will be used on a one-time basis for this study and will not be reused in any form.

Confidentiality: All responses will be secured and held in confidence by the Navy Personnel Research, Studies, and Technology Department (PERS-1). Information you provide will only be considered when statistically combined with the responses of others, and will NOT be identified with any single individual. This survey will also NOT use cookies or any other electronic tracking devices to maintain records of individual respondents.

Participation: Completion of this survey is entirely voluntary. Failure to respond to any of the questions will NOT result in any penalties except for a lack of representation of your views.

Your Background

1. What is your current age?

    □□

2. What is your gender?

    □ Male
    □ Female

3. What is your paygrade?

    □ E-1   □ E-2   □ E-3
    □ E-4   □ E-5   □ E-6
    □ E-7   □ E-8   □ E-9

How much to you **AGREE** or **DISAGREE** with the following statements regarding your experience and comfort with using computers.	Strongly Agree	Agree	Neither	Disagree	Strongly Disagree
5. I have experience using computers	□	□	□	□	□
6. I am comfortable using computers	□	□	□	□	□
7. I have experience using Internet chat or instant messaging software (i.e. AOL instant messenger, MSN messenger, etc.)	□	□	□	□	□
8. I am comfortable using Internet chat or instant messaging software (i.e. AOL instant messenger, MSN messenger, etc.)	□	□	□	□	□

9. How long have you been using the Internet (for browsing, e-mail or other use)?

    □ Does not apply; I have not used the Internet
    □ Less than 1 year
    □ 1 year to less than 2 years
    □ 2 years to less than 3 years
    □ 3 years to less than 4 years
    □ 4 or more years

10. In an average week, how often do you use the Internet (for browsing, e-mail or other use)?

    □ Does not apply; I do not have Internet access
    □ Never
    □ Once a week
    □ Several times a week
    □ Once a day
    □ Several times a day

Focus Group Evaluation

Instructions: Please answer the following questions regarding your participation in the focus group.

How much do you **AGREE** or **DISAGREE** with the following statements regarding how well topics were covered in the group discussion.

	Strongly Agree	Agree	Neither	Disagree	Strongly Disagree
1. The group discussed the topic thoroughly	☐	☐	☐	☐	☐
2. I did not have an opinion about most of the topics raised	☐	☐	☐	☐	☐
3. The group had a lot of good ideas about the topic	☐	☐	☐	☐	☐
4. The discussion frequently got off topic	☐	☐	☐	☐	☐
5. People in the group gave their honest opinion	☐	☐	☐	☐	☐
6. The subject matter of the group was interesting	☐	☐	☐	☐	☐

How much do you **AGREE** or **DISAGREE** with the following statements regarding the interaction during the group discussion.

	Strongly Agree	Agree	Neither	Disagree	Strongly Disagree
7. This approach was appropriate for the discussion topic	☐	☐	☐	☐	☐
8. I had a chance to contribute all that I wanted	☐	☐	☐	☐	☐
9. It was easy to talk to others in the group	☐	☐	☐	☐	☐
10. All members of the group talked about the same amount	☐	☐	☐	☐	☐
11. It was easy to share all my ideas	☐	☐	☐	☐	☐
12. The discussion was difficult to follow	☐	☐	☐	☐	☐
13. I am comfortable in group discussions	☐	☐	☐	☐	☐
14. Other participants appeared to understand my comments	☐	☐	☐	☐	☐
15. I felt like I was part of the group	☐	☐	☐	☐	☐
16. I had a chance to explain myself when I felt others didn't understand	☐	☐	☐	☐	☐

How much do you **AGREE** or **DISAGREE** that the following attributes were demonstrated in the group discussion.

	Strongly Agree	Agree	Neither	Disagree	Strongly Disagree
17. Personal *(as opposed to impersonal)*	☐	☐	☐	☐	☐
18. Sensitive *(as opposed to insensitive)*	☐	☐	☐	☐	☐
19. Warm *(as opposed to cold)*	☐	☐	☐	☐	☐
20. Sociable *(as opposed to unsociable)*	☐	☐	☐	☐	☐
21. Formal *(as opposed to informal)*	☐	☐	☐	☐	☐
22. Immediate *(as opposed to delayed)*	☐	☐	☐	☐	☐
23. Comfortable *(as opposed to uncomfortable)*	☐	☐	☐	☐	☐
24. Connected *(as opposed to disconnected)*	☐	☐	☐	☐	☐

How much do you **AGREE** or **DISAGREE** with the following statements regarding how satisfied you were with the group discussion.

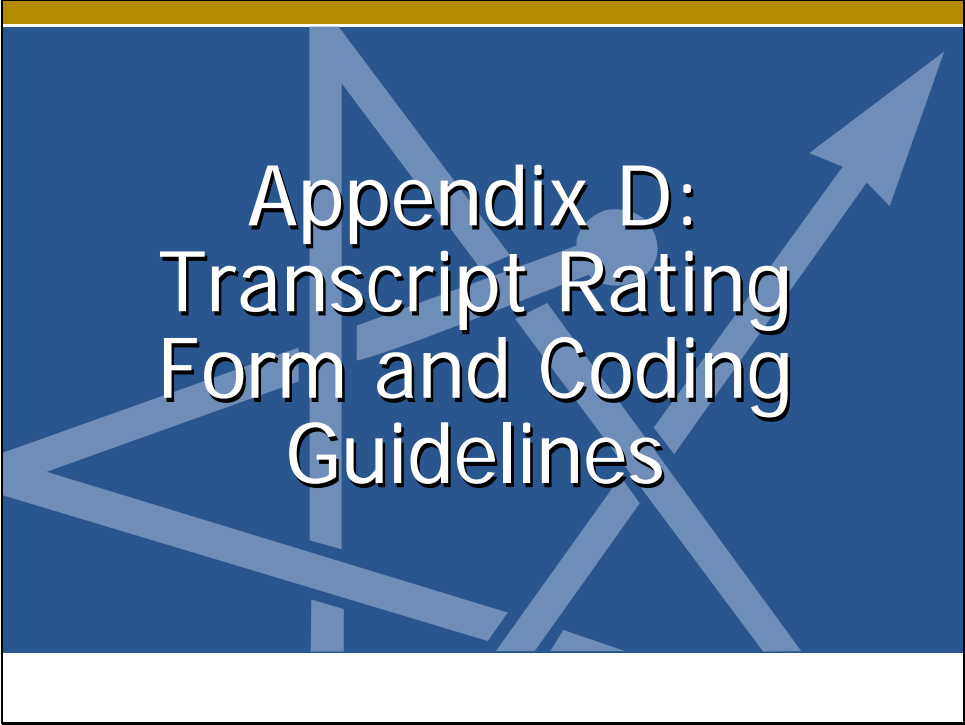|	Strongly Agree	Agree	Neither	Disagree	Strongly Disagree
25. There were times when I was not sure what was expected of me	☐	☐	☐	☐	☐
26. There were times when I didn't know what to say	☐	☐	☐	☐	☐
27. I would be willing to participate in another group like this	☐	☐	☐	☐	☐
28. I felt comfortable giving my opinions	☐	☐	☐	☐	☐
29. I enjoyed participating in this focus group	☐	☐	☐	☐	☐
30. Overall the group went very well	☐	☐	☐	☐	☐

Please use the rating scale below to indicate how much you **AGREE** or **DISAGREE** with how each statement describes you. Describe yourself as you generally are now, not as you wish to be in the future. Please read each statement carefully, and then mark your answer.

	Strongly Agree	Agree	Neither	Disagree	Strongly Disagree
31. I am the life of the party	☐	☐	☐	☐	☐
32. I feel comfortable around people	☐	☐	☐	☐	☐
33. I start conversations	☐	☐	☐	☐	☐
34. I talk to a lot of different people at parties	☐	☐	☐	☐	☐
35. I don't mind being the center of attention	☐	☐	☐	☐	☐
36. I don't talk a lot	☐	☐	☐	☐	☐
37. I keep in the background	☐	☐	☐	☐	☐
38. I have little to say	☐	☐	☐	☐	☐
39. I don't like to draw attention to myself	☐	☐	☐	☐	☐
40. I am quiet around strangers	☐	☐	☐	☐	☐
41. I make friends easily	☐	☐	☐	☐	☐
42. I take charge	☐	☐	☐	☐	☐
43. I know how to captivate people	☐	☐	☐	☐	☐
44. I feel at ease with people	☐	☐	☐	☐	☐
45. I am skilled in handling social situations	☐	☐	☐	☐	☐
46. I find it difficult to approach others	☐	☐	☐	☐	☐
47. I often feel uncomfortable around others	☐	☐	☐	☐	☐
48. I bottle up my feelings	☐	☐	☐	☐	☐
49. I am a very private person	☐	☐	☐	☐	☐
50. I wait for others to lead the way	☐	☐	☐	☐	☐

Thank you for taking your time to complete this study.

Your input is greatly valued.

Appendix D: Transcript Rating Form and Coding Guidelines

Social Presence Focus Group Study 2002
Group Rating Sheet

Instructions: Please complete one rating sheet based on the transcript of each focus group. For specific instructions on how to calculate each of the scores on this sheet, see the notes at the bottom.

Participant ID	A. Number of Participation Attempts	B. Number of relevant comments	C. Number of off-topic comments	D. Total number of words spoken	E. Length of Relevant Comments	F. Number of Disagreements and Insults	G. Total number of comments (B + C)
ID#							
ID#							
ID#							
ID#							
ID#							
ID#							
Column Totals							

Scale Calculation Instructions:

A. Count the number of times each participant's name or id code appears as having interjected a comment.

B. Relevant comments are ones that are on the topic of discussion, in reference to the question being asked or to a previous question. They are supporting examples and explanations that may even be repetitive. Anything that is not off-topic. See additional instruction sheet for focus group topics.

C. Off-topic comments are completely unrelated to the focus group topics or any question posed by the moderator. Pleasantries, small talk, comments about the software, the room, or the moderators themselves are also off topic.

D. Count the total number of words each participant uttered during the entire focus group.

E. Count the total number of words of the relevant comments uttered by each participant.

F. Disagreements are each and every contradictory statement to any individual comment. Intragroup conflict including direct and indirect insults.

G. Total spoken or written comments. Add columns B and C to get the total number of comments made by participants that were relevant and off-topic.

ADDITIONAL TRANSCRIPT CODING INSTRUCTIONS

WHAT IS RELEVANT AND ON TOPIC?

Tell us your first name, which A-school program you are in, and what you do in your spare time.

<u>On-base activities</u>
What on-base activities do you use? What is appealing or unappealing about these?

<u>Off-base activities</u>
What are some of your favorite places to go off-base? How often do you go off base?

<u>Transportation</u>
We have heard that a common way for Sailors to get off base is to use "Jam Vans." Tell us your experiences with the Jam Vans. How else do you travel off base? How is on base transportation?

<u>Raves</u>
We heard that raves are popular in the greater Chicago area. What have you heard about these events? What kinds of things have you heard about or experienced at the typical rave? Have you or any of your friends been to a rave? How often are they held? Have you ever received an invitation to a rave? If so, how did you receive the invitation?

<u>Quality of services and facilities</u>
Is there anything else that you would like to share about on base or off base activities? If you could improve one things about on base activities or facilities what would it be? What would you do to improve life here on base?

<u>The Internet</u>
How is Internet access on base?

WHAT IS OFF TOPIC?

Off-topic comments are completely unrelated to the focus group topics or any question posed by the moderator. Pleasantries, small talk, comments about the software, the room, or the moderators themselves are also off-topic.

CODING SCHEMES

( ) : On-topic or relevant comments
[ ] : Off-topic comments
Highlighted yellow : Disagreements, insults, or contradictions

EXAMPLES:

A)
86: (an attempt)
81: (an attempt)
These are participation attempts. They are not comments and are neither on or off topic.

B)
181: _____ (with no words)
This would be a participation attempt. Not a comment.

C)
*85: I go on ____ night. **OR** 85: 1 go on ( ) night.*
Count underlined spaces or ( ) as one word. This is where I was unable to understand what was being said.

D)
183: From 600am to 1430pm
Count am and pm as a separate word so the above sentence is 6 words long.

E)
213: ok, I was wrong :-)
Emoticans (i.e. are smileys, frowns, etc) are counted as one word.

F)
"Yeah": counts like a yes and is considered a comment

"Oh": counts as a word or comment because they are trying to communicate

"ahhh" or *"ummm":* does not count as a word because it is used as a place holder
       or pause. Not really communicating unless it is typed in an online focus group. If
       Ummm is typed in an online focus group, count as one word because they
       deliberately wanted to communicate a pause.

"Ya Know": counts as 2 words

"um hum": counts as 1 word like a yes. Statement of agreement.

"huh" and *"uh"* : do not count as words

"lol" or *"lmao"* or *"rotfl":* count as one word

G)
( ): I don't know.
This is where I couldn't tell who said what. Cross out and don't count. I kept it in as a conversation placeholder.

WHAT DO THEY DO IN THEIR SPARE TIME? GENERALLY SPEAKING
WHEN NO LOCATION IS MENTIONED

Hang out; relax
Party/Kicking it
Drink
Sleep
Read
Computer games/playstation 2
Workout/lift weights
Study
Play pool
Eat

ON BASE ACTIVITIES AND/OR FACILITIES

WHY THEY STAY ON BASE
Stay on base during the week because of class, study, pt, duty, and not enough time with curfew to do anything off base
Save money

THE PIER / CLUB 525 / CLUB LIBERTY
Alright to relax and hang out in
Need more free stuff like Internet, video games, food, and pool
Well lit

ROSS THEATRE
Free movie premiers
Just a dollar
Need to have more than one showing of the premier
Need to have a more consistent movie schedule
Need movies during the week
Sound systems sucks

THE TRACK

BOWLING ALLEY
     Too far away, long walk

THE LOFT
     Have free pool
     Too far of a walk
     Not well lit

USO
     Free food, games, entertainment, and stuff
     Not many people know what they offer
     Not well lit

GYMS
     Pretty good
     Need a consistent schedule of hours
     Don't stay open long enough in evening
     Don't open early enough in the morning

LIBRARY
     Free Internet

GALLEY / FOOD OPTIONS
     Improve the food
     RTC eats better than they do
     No ability to cook healthy in the barracks
     Claim they don't eat healthy food (those that don't eat in galley)
     Roommates eat your food
     No problem with the galley
     Lines are too long
     Doesn't stay open long enough in the evening
     More food

Run out of advertised food, get leftovers or not a full or balanced meal
Food places and galley are adequate
Would like more variety of fast food
     Jack in the Box
     Burger King
     Chick Fila
     Popeye's
     Arbys
     A deli

THE NEX AKA NAVY EXCHANGE

Difference in price for on and off base Exchange
Expensive overall

INTRAMURAL GAMES OR SPORTS
     Need more
     Base wide teams better for unity
     Sports suggested:
          Male and female basketball
          Soccer
          Tag football
          Track teams
          Boxing
          Baseball

     Need a skate park for:
          Rollerblading
          Skateboarding

COOKOUTS/BARBECUES
     Need more

CONCERTS/LIVE BANDS
     Need more

OFF BASE ACTIVITIES

WHY THEY GO OFF BASE
> To get away from Base
> To get away from BEQ
> To get away from other students/need space
> To get away from Navy

Malls; shopping
Clubs
Bars
Parties at hotels
Movies
Restaurants
Check out surrounding area; site see
> Chicago
> Minneapolis
> Kenosha
> Milwaukee
> Waukegan
> Gurnie

Chicago is an expensive city
Pick up chicks/Look for women/girl watch

TRANSPORTATION

ON BASE SHUTTLES
> Need more shuttles
> Don't see them often/or when you need them
> Usually full
> They don't stop for you
> Long wait for them
> Need more shuttle stops
> Need a schedule of stops
> Use TPU or people on duty for drivers
> Use a school bus or larger vans

JAM VANS

      You get a good driver call them up
      Rates change at their discretion
      Rates change depending on the number of people
      Get stopped by the cops frequently
      Overall, a good and needed service
      Driving is fast and/or dangerous
      Cheap transportation
      Expensive transportation
      Crowded vans/too many passengers
      Should be allowed on base
      Some vans are not equipped well i.e. seatbelts, windshield wipers
      Drivers don't speak good English/hard to understand them
      Best way to travel if you don't have a car or a friend with a car
      They don't crash/haven't heard of them crashing
      Some good, some bad

PERSONAL CARS
      Need more parking for fleet returnees

TRAIN

FRIEND'S CAR

RAVES

Been to a rave but don't go anymore
Never been to a rave
Go regularly to raves
All about music: trance and techno, hard house
Less expensive to get in a rave than a club
Not about the drugs
Lots of drugs including Exctasy

WHAT IS A RAVE?   GOOD QUOTES OR DESCRIPTIONS

HOW DO THEY HEAR ABOUT RAVES?
>   Word of mouth
>   Flyers, advertisements
>   Internet
>   Underground

INTERNET

Library has free internet/30 minute time limit at the library
USO has free internet/cheap
Hard to get access at USO
Hard to get access/can't use it that long
Long wait to get access at library
Slow loading browsers eat up Internet time
Limited print capabilities
Expensive to check email in room with current phone company
Expensive to email/1 dollar for 10 minutes
Not enough computers
Need computers in BEQ
Hard to communicate with family, friends, or research things because of email access and cost
Good at Pier

CURFEW/LIBERTY

Sucks/don't like it/it's a drag
Need more free time

B-SHIFT ISSUES

Not enough free time

STAFF ISSUES

Poorly motivated staff/don't seem to care
Yell at them a lot
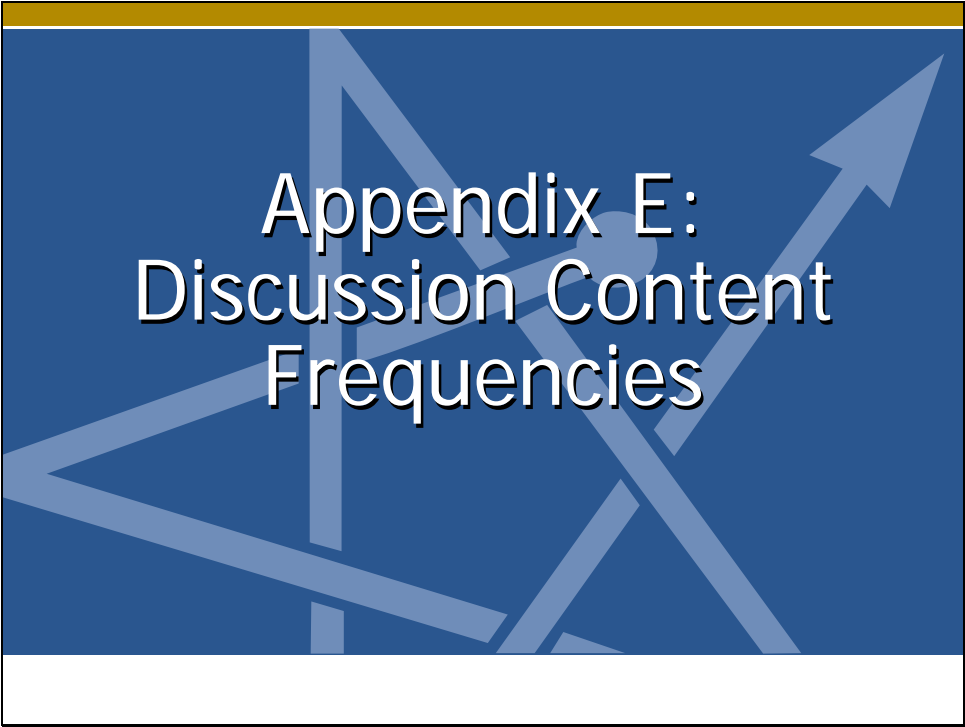
OTHER

Phone company on base is expensive

Sailors have difficulty saving money because of transportation and food costs

Sprint retailer doesn't provide discount to military

Gates close too early particularly gate 4

Appendix E:
Discussion Content
Frequencies

Discussion Content

Unique ideas produced in response to core questions. Included are those ideas that were mentioned by all three focus group types and at least 8 times.

What do you do in your spare time?

Number of focus groups contributing unique comments

Unique comments	Internet-based	Computer-mediated	Face-to-face
Watch movies/dvds/TV	7	8	7
Hang out/relax	6	6	4
Sleep	5	8	4
Workout/lift weights	8	3	4
Read	4	5	5
Computer games/playstation 2	5	4	5
Drink	4	4	5
Play pool	2	6	2
Study	4	5	2
Hang with family	5	3	0
Sports	4	4	2
Total Unique Comments	54	56	40

Ross Theatre

Number of focus groups contributing unique comments

Unique comments	Internet-based	Computer-mediated	Face-to-face
Know about it	5	7	6
Free movie premiers	3	3	5
Total Unique Comments	8	10	11

The Pier / Club 525 / Club Liberty

Number of focus groups contributing unique comments

Unique comments	Internet-based	Computer-mediated	Face-to-face
Know about it	7	9	7
Alright to relax and hang out in	4	4	2
Total Unique Comments	11	13	9

The Loft

Number of focus groups contributing unique comments

Unique comments	Internet-based	Computer-mediated	Face-to-face
Know about it	5	4	6
Have free pool	4	4	6
Total Unique Comments	9	8	12

The USO

Number of focus groups contributing unique comments

Unique comments	Internet-based	Computer-mediated	Face-to-face
Know about it	3	4	5
Total Unique Comments	3	4	5

The Gyms

Number of focus groups contributing unique comments

Unique comments	Internet-based	Computer-mediated	Face-to-face
Know about them	8	7	9
Pretty good	5	6	6
Total Unique Comments	13	13	15

The Library

Number of focus groups contributing unique comments

Unique comments	Internet-based	Computer-mediated	Face-to-face
Know about it	4	1	3
Free Internet	3	2	3
Never open	0	1	0
Total Unique Comments	7	4	6

The Galley / Food Options

Number of focus groups contributing unique comments

Unique comments	Internet-based	Computer-mediated	Face-to-face
Improve the food	2	6	5
Total Unique Comments	2	6	5

The NEX

Number of focus groups contributing unique comments

Unique comments	Internet-based	Computer-mediated	Face-to-face
Know about it	4	4	3
Total Unique Comments	4	4	3

Other on base activities / facilities

Number of focus groups contributing unique comments

Unique comments	Internet-based	Computer-mediated	Face-to-face
The Bowling Alley - know about it	5	3	5
Total Unique Comments	13	13	19

Why do you go off base?

Number of focus groups contributing unique comments

Unique comments	Internet-based	Computer-mediated	Face-to-face
To go home	5	2	3
To get away from Base	2	3	3
Total Unique Comments	7	5	6

What are some of your favorite places to go off base?

Number of focus groups contributing unique comments

Unique comments	Internet-based	Computer-mediated	Face-to-face
Chicago	8	8	9
Malls; shopping	7	6	8
Clubs	6	5	8
Movies	5	5	7
Restaurants	7	4	3
Gurnie	5	5	8
Hawthorne	2	0	7
Museums	1	5	3
Bars	3	3	3
Total Unique Comments	44	41	56

On base shuttles / transportation

Number of focus groups contributing unique comments

Unique comments	Internet-based	Computer-mediated	Face-to-face
Don't see them often/or when you need them	3	1	5
Want an off base shuttle	2	2	4
Long wait for them	3	3	3
Total Unique Comments	8	6	12

Tell us your experiences with the Jam Vans

Number of focus groups contributing unique comments

Unique comments	Internet-based	Computer-mediated	Face-to-face
Know about them	8	9	8
Expensive transportation	7	8	7
Driving is fast and/or dangerous	6	7	8
Rates change depending on the number of people	5	4	7
Crowded vans/too many passengers	3	7	5
Rates change at their discretion	3	3	5
Cheap transportation	4	4	1
Overall, a good and needed service	3	3	2
understand them	2	4	3
Long waits	2	4	5
Some good, some bad	3	2	5
Total Unique Comments	46	55	56

Other transportation

Number of focus groups contributing unique comments

Unique comments	Internet-based	Computer-mediated	Face-to-face
Take the train	8	7	9
Take a friend's car	4	3	6
Take a taxi	3	3	6
Use personal cars	4	4	3
Walk	4	3	1
Total Unique Comments	23	20	25

What do you know about Raves?

Number of focus groups contributing unique comments

Unique comments	Internet-based	Computer-mediated	Face-to-face
Never been to a rave/stay away from them	8	9	5
Lots of drugs including Exctasy	8	7	5
Been to a rave but don't go anymore	6	3	5
All about music: trance and techno, hard house	3	1	4
Total Unique Comments	25	20	19

How do you hear about Raves?

Number of focus groups contributing unique comments

Unique comments	Internet-based	Computer-mediated	Face-to-face
Word of mouth	3	2	6
Total Unique Comments	3	2	6

Internet Access

Number of focus groups contributing unique comments

Unique comments	Internet-based	Computer-mediated	Face-to-face
Expensive to email/1 dollar for 10 minutes	4	4	5
Library has free internet/30 minute time limit at the library	3	3	4
Hard to get access/can't use it that long	5	0	2
Total Unique Comments	12	7	11

Distribution

AIR UNIVERSITY LIBRARY
ARMY MANAGEMENT STAFF COLLEGE LIBRARY
ARMY RESEARCH INSTITUTE LIBRARY
ARMY WAR COLLEGE LIBRARY
CENTER FOR NAVAL ANALYSES LIBRARY
HUMAN RESOURCES DIRECTORATE TECHNICAL LIBRARY
JOINT FORCES STAFF COLLEGE LIBRARY
MARINE CORPS UNIVERSITY LIBRARIES
NATIONAL DEFENSE UNIVERSITY LIBRARY
NAVAL HEALTH RESEARCH CENTER WILKINS BIOMEDICAL LIBRARY
NAVAL POSTGRADUATE SCHOOL DUDLEY KNOX LIBRARY
NAVAL RESEARCH LABORATORY RUTH HOOKER RESEARCH LIBRARY
NAVAL WAR COLLEGE LIBRARY
NAVY PERSONNEL RESEARCH, STUDIES, AND TECHNOLOGY SPISHOCK
        LIBRARY (3)
PENTAGON LIBRARY
USAF ACADEMY LIBRARY
US COAST GUARD ACADEMY LIBRARY
US MERCHANT MARINE ACADEMY BLAND LIBRARY
US MILITARY ACADEMY AT WEST POINT LIBRARY
US NAVAL ACADEMY NIMITZ LIBRARY